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Dr. Inácio de Barros Melo Neto[1]

In 2020, the world was faced with one of the biggest challenges of the last century. Even with the announcement at the end of 2019 of the detection of a new type of coronavirus, SARS-CoV-2, in Wuhan, China, it was not possible to imagine the magnitude of the battle that was to come at the personal, social, and institutional levels. This challenging period presented many uncertainties, but we always kept our eyes on the horizon without forgetting our objectives and values. It is through this approach that we are overcoming the COVID-19 pandemic.

During this period, humanity found itself fragile, exposed, and vulnerable. Our battle became against an invisible enemy who invaded our homes, separated us from our families, and caused immeasurable pain and losses. In this scenario, human matter became more than just a hostage to the disease; it became the main weapon against the virus. At this moment, the world witnessed the incomparable importance of healthcare workers, including physicians, nurses, physical therapists, and students. Fear and insecurity tested our resilience, articulation, and determination, necessary to remain firm in the mission of training competent physicians committed to society.

Faced with the challenges, the Faculdade de Medicina de Olinda did not abandon its commitment to training excellent physicians. At the time, the academic internship of the first FMO class was beginning, so we had a duty to fulfill towards society. With attention to legal provisions and a commitment to protecting our employees and students, even in times of great scarcity, we have come together to donate personal protective equipment to our partner health services and provide all the necessary materials for the safety of our students. The pandemic created a scenario where the entire healthcare workforce was needed, and everyone needed to contribute. We began using a high-quality platform designed to facilitate the continuity of academic activities in accordance with state and federal regulations that prohibited face-to-face meetings. This period required adaptation and much learning, in which students, teachers, and technical and administrative staff came together to continue the excellent work that we have always developed together.

With this volume of the journal Anais da Faculdade de Medicina de Olinda, we give yet another demonstration of our commitment to disclosing knowledge produced by our professors and students, as well as scientists from other institutions, reaffirming that cooperation between researchers and the disclosure of science has been the most effective weapon in controlling the COVID-19 pandemic until now. Our institution once again fulfills its role in stimulating innovative projects that contribute to medical training, consolidating the pillars of teaching, research, and extension.

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Letter from the editor

Carta do editor

Prof. Paulo Sávio Angeiras de Goes - PhD

The insecurity that struck humanity from December 2019 onwards, caused by a severe influenza respiratory syndrome due to a new type of Coronavirus and the consequent recognition of the pandemic in the first months of 2020 led researchers, teachers, and students in the health field to focus their actions on understanding the etio-pathophysiology of the new disease, named COVID-19.

This period was marked by national and international cooperation, including the transition to remote work and remote teaching for millions of students, which enabled humanity to address this enormous challenge. In this volume of the journal Anais da Faculdade de Medicina de Olinda, the first works devoted to the topic appear, preceding the following edition, entirely devoted to the study of COVID-19.

The context of COVID-19 also initiated a broad debate about the practices of science, especially Medicine, at a speed never before experienced. To cite just one example, more than 30 years passed between John Snow's recognition of the cholera epidemic in London in 1850 and Robert Koch's discovery of Vibrio cholerae in 1883. Between the announcement of the first case of COVID-19 (not the identification of the new type of coronavirus) and the complete genetic mapping of the virus, a few days passed.

This effort, in the name of science, as represented by the studies published in this journal, also demonstrates the institutional capacity to maintain a commitment to seeking new understanding and producing scientific knowledge.

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PRESURGICAL EMBOLIZATION OF INTRACRANIAL MENINGIOMA

Embolização pré-cirúrgica de meningioma intracraniano

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ABSTRACT

Meningiomas are tumors with high vascularization whose treatment is surgical resection. Preoperative embolization facilitates their removal because it can reduce intraoperative blood loss and surgical time. A 45-year-old female patient presented recurrent headaches for six months that did not respond to analgesics; she also presented visual impairment with loss of visual field, mainly on the left eye, for three months. The patient underwent brain magnetic resonance imaging and contrast-enhanced magnetic resonance angiography. The results demonstrated a solid extra-axial vascularized expansive process in the anterior cranial fossa, suggesting a lesion of meningothelial lineage, including meningioma. A preoperative embolization was performed, followed by a surgical resection on the next day. In the postoperative period, the patient was conscious and oriented and did not present visual impairment. In this sense, preoperative embolization may be useful in meningioma surgery as it reduces intraoperative blood loss and surgical time, softening the consistency of the tumor. However, the possibility of embolic complications should be considered, and emergency craniotomy preparation should be maintained, mainly in patients with large meningiomas.

Keywords: Meningioma; Therapeutic embolization; Angiography; Surgery; Neurosurgery.

RESUMO

Introdução: Os meningiomas são tumores altamente vascularizados cujo tratamento de escolha é a ressecção cirúrgica. Contudo, a embolização pré-operatória destes tem sido estabelecida para facilitar a sua remoção, uma vez que pode reduzir a perda sanguínea intraoperatória e o tempo cirúrgico. **Relato do caso:** Paciente do sexo feminino, 45 anos, com história de cefaleia recorrente há seis meses, que não cedeu aos analgésicos e apresentou déficit visual, com perda de campo visual principalmente à esquerda há três meses. Foi submetida à ressonância magnética do encéfalo e à angiorressonância magnética com contraste, na qual foi evidenciado um processo expansivo sólido extra-axial vascularizado na fossa craniana anterior, sendo a principal hipótese a lesão de linhagem meningotelial (entre elas o meningioma). Em seguida, foi realizada uma embolização pré-operatória da vascularização tumoral e, no dia seguinte, a neurocirurgia de ressecção tumoral. No pós-operatório a paciente cursou sem déficit visual, consciente e orientada. **Comentários:** A embolização pré-operatória pode apresentar uma vantagem na cirurgia para meningioma. O procedimento reduz a perda sanguínea intraoperatória e o tempo de operação, suavizando a consistência do tumor. No entanto, deve-se observar a possibilidade de complicações embólicas e manter o preparo da craniotomia de emergência, principalmente em pacientes com grandes meningiomas.

Palavras-chave: Meningioma; Embolização Terapêutica; Angiografia; Cirurgia; Neurocirurgia.

INTRODUCTION

Meningiomas are highly vascularized tumors that comprise 13% to 20% of all brain tumors, and skull base meningiomas comprise about 44% of skull base tumors. Their vascular supply can derive from extra- and intracranial circulation[1].

Meningiomas can be treated using surgical resection2; however, this procedure exposes the patient to a significant risk of blood loss[3,4]. In this context, preoperative embolization was established to ease surgical resection, as it reduces intraoperative blood loss and surgical time[4,5].

Therefore, the present study aimed to report a case of presurgical embolization of intracranial meningioma and provide evidence of its effectiveness in neurosurgical treatment.

CASE REPORT

The study was approved by the research ethics committee for research involving human beings of the Faculdade de Medicina de Olinda (no. 43998421.0.0000.8033).

A 45-year-old female patient reported recurring headaches for six months, with worsening intensity and without improvement with analgesics usage. For three months, she presented visual impairment, mainly in the left eye.

The patient was submitted to brain magnetic resonance imaging and contrast-enhanced magnetic resonance angiography. In the first exam, a solid extra-axial vascularized expansive process was observed in the anterior cranial fossa, predominantly in the median location, projecting to both sides, but more evident paramedian on the left, extending from the sphenoidal plane to the olfactory region (Figure 1). The tumor was located anterior to the pericallosal and callosomarginal arteries, close to the latter, but without signs of involvement.

Vascular branches were observed along the medial and anterolateral margins, with no signs of involvement of the sagittal venous sinus. The upper limit was anterior to the rostrum and genu of the corpus callosum, causing a slight impression on the latter. The tumor measured about 3.9 x 3.8 x 3.7 cm in the largest longitudinal, transverse, and sagittal diameters, respectively. A slight impression was observed on the frontal horns of the lateral ventricles, suggesting a lesion of meningothelial lineage, including meningioma.

Then, the neurosurgeon requested preoperative embolization of the tumor, which was performed under general anesthesia and full heparinization using percutaneous puncture of the right common femoral artery, with selective catheterization of the internal and external carotid arteries.

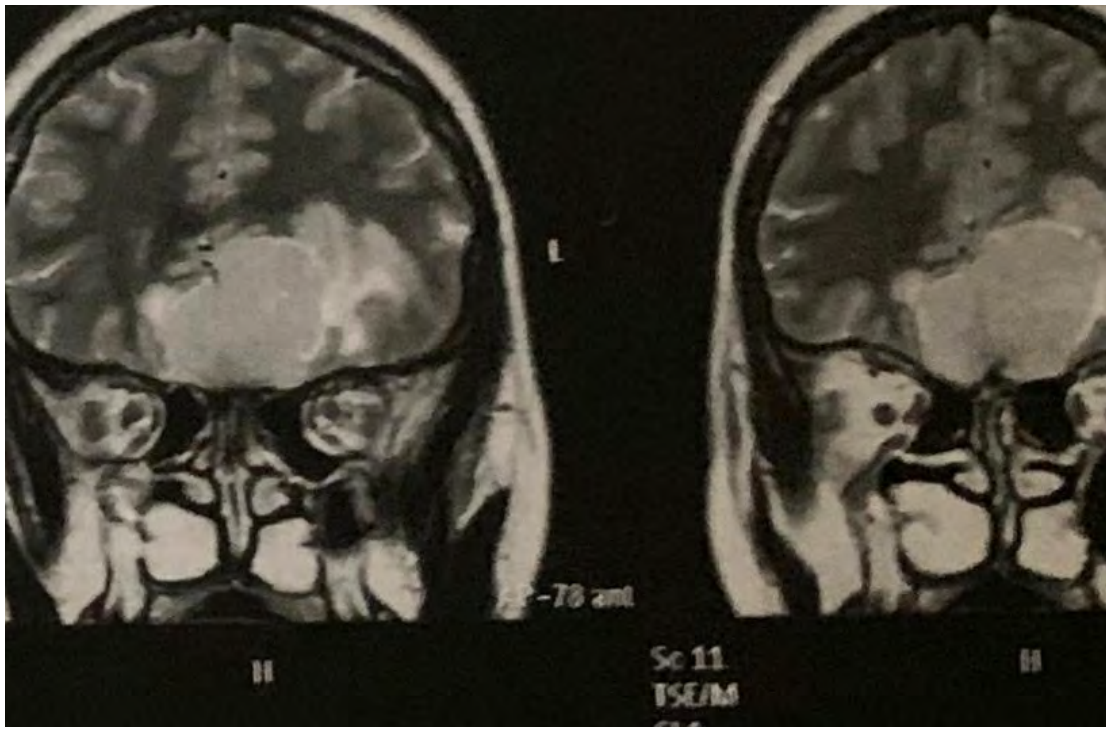

Figure 1. Magnetic resonance imaging of the brain, T1-weighted coronal section, demonstrating a solid extra-axial expansive process (meningioma) vascularized in the frontal basal plane of the olfactory groove and planum sphenoidale.

The observed aspects encompassed a hypervascularized lesion in the frontal region at midline with an opacification with discrete blush in the arterial phase and becoming intense in the venous phase, more evident through selective catheterization of the left internal and external carotid artery. The tumor-feeding vascularization originated from the left anterior and posterior ethmoidal arteries (branches of the left ophthalmic artery), crossing the cribriform plate of the ethmoid, with additional participation of the contralateral homonymous arteries.

Then, selective microcatheterization of the left middle meningeal, left accessory middle meningeal, and left maxillary arteries was performed, from which originated the branches that fed the periphery of the meningioma (Figure 2). Polyvinyl alcohol microspheres were used for embolization. The peripheral region of the tumor was devascularized, remaining the main vascular supply from the skull base. This region did not undergo embolization due to the risk of inducing ischemia in other brain regions.

After embolization, the patient was transferred to an intensive care unit conscious and underwent neurosurgery for tumor resection. About 90% of the tumor was removed, with a small portion remaining adherent to the skull base. The embolization was effective, as it caused atrophy of the tumor region most adherent to the optic chiasm, allowing the removal of the meningioma without damaging the optic chiasm and optic nerve; damage to these structures is considered the most significant risk in this surgery. The patient remained conscious, oriented, and without visual impairments in the postoperative period.

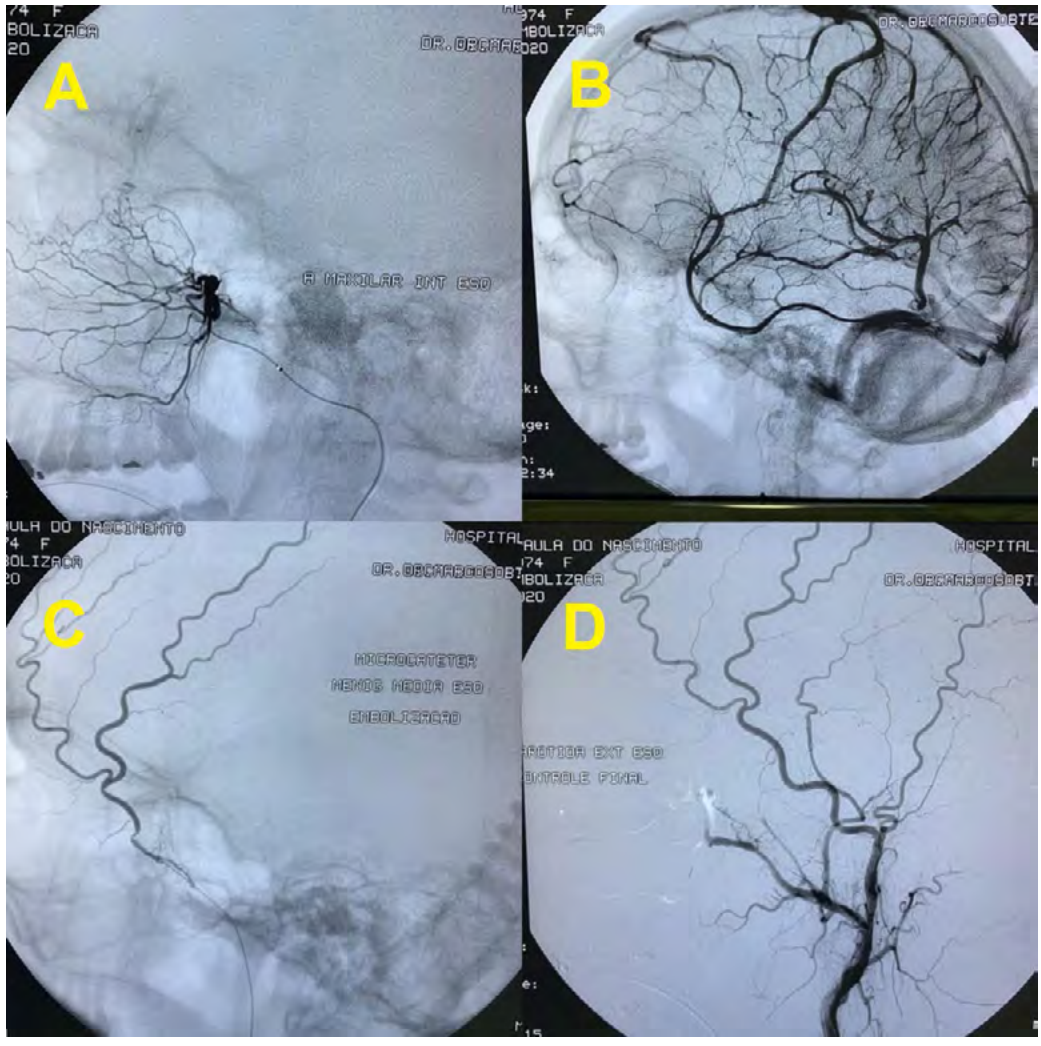

Figure 2. Brain arteriography. A: Embolization of the left maxillary artery; B: Meningioma; C: Embolization of the middle meningeal artery; and D: Arteriography of the left external carotid artery.

COMMENTS

Preoperative embolization decreases surgical blood loss, surgical time, and infection rates[7]. Furthermore, the procedure can improve the resectability of the meningioma by reducing its vascularization and firmness[6,7].

Several embolic agents are used for presurgical embolization. However, preoperative embolization still presents some potential risks, regardless of the agents used. Some risks include stroke due to irregular migration into other cerebral arteries[8], blindness, hemorrhage, and cranial nerve palsy[9]. Non-neurological complications related to endovascular treatment can also occur, including groin hematoma, femoral pseudoaneurysm, and arteriovenous fistula[10].

The overall complication rate of preoperative embolization ranges from 0% to 9%2,3. The present study is consistent with the literature, as no complications were observed during the procedure[10].

In the present study, the interval between embolization and tumor resection was 24 h; the ideal time interval between these procedures is not well established. Some studies recommend a minimum of 24 hours if the goal is to maximize tumor devascularization and reduce operative blood loss, and at least one week is recommended when attempting to optimize tumor resectability and decrease edema[11].

Regarding vascular supply, the anterior skull base meningiomas may exhibit a varied and complex vascular supply, as observed in the case studied. The anterior or posterior ethmoidal arteries (or both) are the main feeding arteries in less than 13% of skull base meningiomas. The vascularity of meningiomas in the olfactory groove and planum sphenoidale may arise from dural, transosseous, and even pial supply[12]. The middle meningeal arteries supply about 17% of sphenoid ridge meningiomas[13].

Tumors in the anterior skull base may also be fed by arteries that supply the edges of the superior orbital fissure, such as the anterior branch of the middle meningeal arteries, the recurrent meningeal branches of the ophthalmic and lacrimal arteries, the meningeal branches of the internal carotid artery, the tentorial branch of the meningohypophyseal trunk, the anterior branch of the inferolateral trunk, and the terminal branches of the internal maxillary artery[12]. These collateralizations predispose meningiomas to high vascularization. In a study of skull base meningiomas of the anterior and middle fossa, only one complete embolization was achieved in 55 attempts[14].

Early embolization of the feeding branches of the anterior and posterior ethmoidal arteries can reduce blood loss and assist in safe resection. However, vessel wall hypertrophy and hyperostotic sclerotic foramen lining can present challenges. The edematous brain tissue and large tumor size may hinder retraction, limiting access to the feeding vessels during surgery. Endovascular embolization of feeding vessels can result in significant complications, such as blindness due to unintentional retrograde embolization of the ophthalmic artery1.

A study evaluating the outcomes of meningioma embolization via the ophthalmic artery reported no visual changes in five patients. However, one developed transient oculomotor nerve palsy. The authors claimed that the chance of complications in embolization of the feeding branches arising from the ophthalmic artery is lower if the microcatheter is selectively placed distally to the central retinal artery, minimizing reflux of the embolic agent[15].

In conclusion, preoperative embolization has proven useful in meningioma surgery. Surgical time and intraoperative blood loss were reduced by the process, softening the tumor consistency. However, the possibility of embolic complications must be considered, and emergency craniotomy preparation should be maintained, mainly in patients with large meningiomas.

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ORIGINAL ARTICLE

SEQUENTIAL DIAGNOSIS OF TWO CEREBRAL ARTERIOVENOUS MALFORMATIONS: CASE REPORT

DIAGNÓSTICO SEQUENCIAL DE DUAS MALFORMAÇÕES ARTERIOVENOSAS CEREBRAIS: ESTUDO DE CASO

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ABSTRACT

Cerebral arteriovenous malformations (AVM) are vascular lesions of the cerebral vascular system that occur during embryogenesis. A 19-year-old male patient was diagnosed and treated for the first AVM in the splenium of the corpus callosum. After a year and a half, he was diagnosed with a second AVM in the knee of the corpus callosum, receiving the second appropriate treatment. Although cerebral angiography is the gold standard for evaluating AVM angioarchitecture, its monitoring is essential after surgical, radiosurgical, or embolization treatment for a decisive diagnosis, especially in cases of micro malformations.

Keywords: Angiography; corpus callosum; intracranial arteriovenous malformations; neurosurgery

RESUMO

As malformações arteriovenosas cerebrais (MAV) são lesões vasculares do sistema vascular cerebral que ocorrem durante o período de embriogênese. Trata-se de um paciente do gênero masculino, com 19 anos, diagnosticado e tratado da primeira MAV no esplênio do corpo caloso. Após um ano e meio, foi diagnosticado com uma segunda MAV no joelho do corpo caloso, recebendo o segundo tratamento adequado. Embora a angiografia cerebral seja considerada padrão ouro para avaliar a angioarquitetura da MAV, torna-se indispensável o acompanhamento de sua evolução após o tratamento cirúrgico, radiocirúrgico ou por embolização, para um diagnóstico decisivo e expansivo, principalmente, em casos de micromalformações.

Palavras-chave: Angiografia; Corpo caloso; Malformações arteriovenosas intracranianas; Neurocirurgia

INTRODUCTION

Cerebral arteriovenous malformations (AVM) are vascular lesions arising from the embryogenesis of the cerebral vascular system. Its primary lesion is characterized by the absence of the normal capillary network between arteries and veins, resulting in a dilated structure with a skein appearance[1-3]. Intracranial hemorrhage, especially intraparenchymal hemorrhage, is the clinical manifestation present in most patients with AVM. Imaging studies, such as computed tomography, nuclear magnetic resonance (NMR), and cerebral angiography (CA) confirm the diagnosis of a vascular lesion[4].

The CA is the best imaging method to evaluate AVM angioarchitecture and the existence of risk factors that may aggravate its evolution, providing greater importance for the understanding and therapeutic guidance of AVM[5].

Evidence suggests that between 0.14% and 0.80% of the population may have cerebral AVM at some point in life. Several AVMs are diagnosed between 20 and 40 years, and only 18.0% to 20.0% are symptomatic among people aged below 15 years. Among the symptoms, convulsions, headaches, and progressive neurological alterations can be highlighted. The risk of hemorrhage in patients with cerebral AVM who present other initial symptoms is about 2.2% per year, and the mortality of these patients with an initial hemorrhage is 10.0% to 15.0%, with morbidity ranging from 20.0% to 30.0%. This report presents a peculiar prognosis of AVM, as the patient was diagnosed twice at different times due to a pathology in which its etiology is summarized during embryogenesis[6-7].

CASE REPORT

The study was approved by the research ethi-

cs committee for research involving human beings of the Faculdade de Medicina de Olinda (no. 43998421.0.0000.8033).

A 19-year-old male patient was referred to the Complexo Hospitalar de Mangabeira Governador Tarcísio de Miranda Burity (state of Paraíba, Brazil) due to persistent tension headaches for more than five days. A cranial computed tomography scan was performed, and hyperdense content within the right lateral ventricle was found. Cranial arterial and venous resonance imaging and NMR revealed discrete alterations of expansive effects with serpiginous and flow-void images located in the most posterior portion of the splenium of the corpus callosum with a Spetzler-Martin classification grade II (Figure 1).

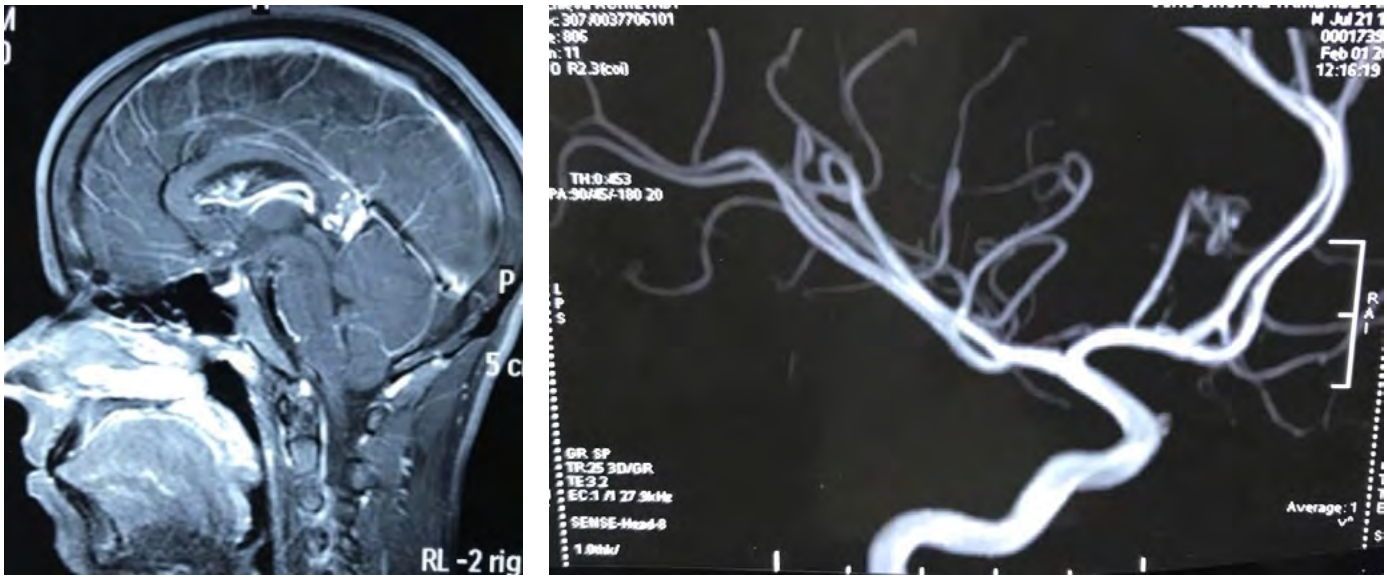

Figure 1. Contrast-enhanced NMR angioresonance.

The CA confirmed the first AVM in the splenium of the corpus callosum; thus, radiosurgery treatment was chosen. The patient was reassessed by NMR three and nine months after the first radiosurgery. After a year and a half, a CA confirmed satisfactory healing of the first AVM; however, a second AVM was observed posteriorly at the knee of the corpus callosum.

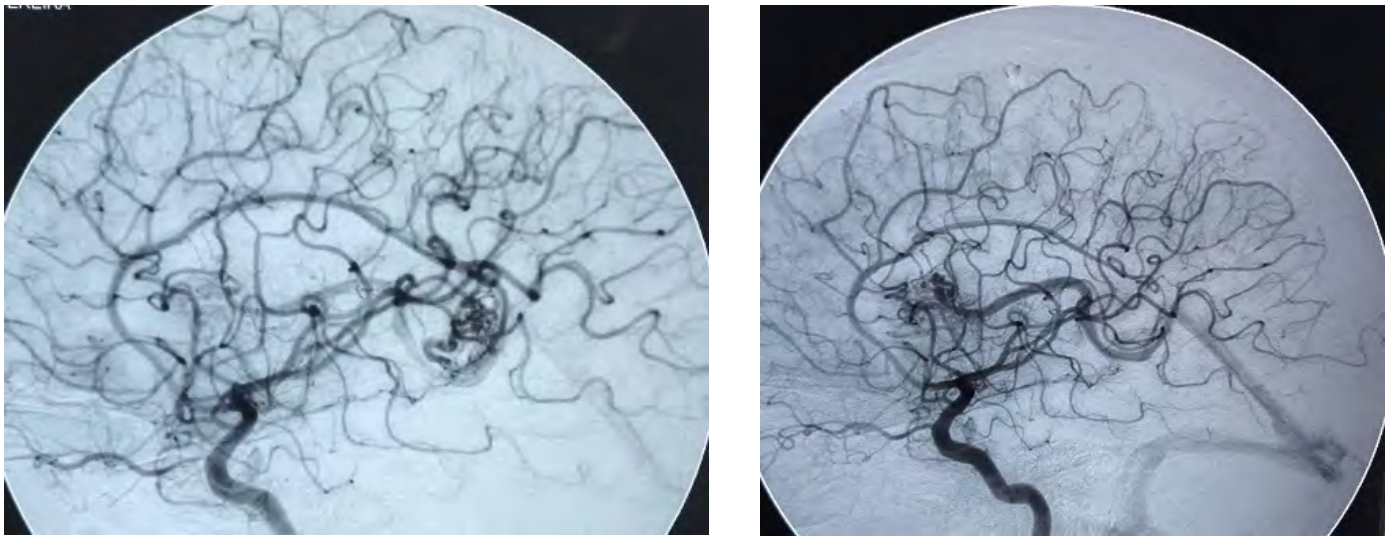

Figure 2. Cerebral arteriography. First and second arteriovenous malformation.

A second radiosurgery was performed, and the patient was reassessed by NMR three and nine months after the second radiosurgery; no alteration was evidenced.

COMMENTS

Several attempts at classification were presented by Dandy and Cushing-Bailey in 1928, Bergstrand-Olivecrona-Tönnis in 1936, Manuelidis in 1950, Pluvinage in 1954, Olivecrona-Landenheim in 1957, Russel-Rubinstein in 1963, Merland et al. in 1983, and Huang in 1984[4-7]. In 1985, McCormick, considering anatomopathological aspects, classified AVM as capillary telangiectasia, cavernous malformation, venous angioma, or arteriovenous malformation. Afterward, the latter was described macroscopically as an aspect of "worm folding". Yaşargil, in 1987, proposed a new classification[8,9].

The wide variation in tables and names reflected the lack of understanding about the pathogenesis of AVM. The classifications were simple and of limited practical use or very complex with difficult clinical applications. In this context, Spetzler and Martin, in 1986, published the classification of AVM to estimate the risk of surgical morbidity and mortality, which was widely accepted due to its simplicity and practicality. The classification was based on surgical difficulty, considering size, venous drainage pattern, and eloquence of the adjacent brain[9].

The size of the AVM nidus was considered small (< 3 cm), medium (3 - 6 cm), or large (> 6 cm), accounting for a large part of the technical difficulty during the surgery. The extent of brain tissue exposed during AVM resection and the time required for anesthesia increases the risk of postoperative complications. Size is also related to the number of afferents and blood flow[9,10].

Surgical AVM access is closely related to venous drainage since the veins must be connected last in the resection. Deep veins require most AVM to be detached for viewing. These veins are friable and difficult to coagulate and are prone to rupture and hemorrhage when retracted[8]. The venous drainage pattern is considered superficial or deep, being superficial if all AVM drainage is done through cortical veins. If any efferents drain through deep veins, such as the great vein, the internal cerebral vein, and the basal vein, the pattern is considered deep. In the posterior fossa, only veins in the cerebellar hemispheres that drain directly into the transverse sinuses or rectum are considered superficial[11].

The eloquence of the adjacent brain corresponds to the area that causes neurological alterations or sequelae if injured[3-6]. Eloquent areas include the sensory-motor area, visual and language cortex, hypothalamus, thalamus, internal capsule, brainstem, cerebellar peduncles, and deep cerebellar nuclei[3-6]. The degree is determined by imaging tests, and a value is given for each criterion. The points are summed up, with the total corresponding to a grade ranging from I to V. Grade I AVM are small, superficial, and located in the non-eloquent cortex, while grade V AVM is large, deep, and located in neurologically critical areas. The latter has a high risk of morbidity and mortality associated with surgery. AVM grades II to IV constitute a heterogeneous group with variable risk, and subdivisions of grade III were proposed by Oliveira et al. and Lawton[10,11].

Although CA is the gold standard for evaluating AVM angioarchitecture, its monitoring is essential after surgical, radiosurgical, or embolization treatment, with sequential angiographic examinations performed annually, appropriate views, and 3D digital radiographic images for an early and decisive diagnosis, especially in case of micro malformations. This monitoring avoids the repetitive need for radiosurgery and physical and emotional damage to the patient[6,8-9].

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ORIGINAL ARTICLE

INTRACRANIAL VENOUS SINUS THROMBOSIS: RADIOLOGIC DIAGNOSIS

TROMBOSE DOS SEIOS INTRACRANIANOS: DIAGNÓSTICO RADIOLÓGICO

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ABSTRACT

Introduction: Intracranial venous sinus thrombosis is a rare condition whose diagnosis may be established using computed tomography (CT), magnetic resonance imaging (MRI), or catheter angiography. **Case report:** A 27-year-old female patient with severe holocranial headache, retroocular pulsating pain, visual blurring, and seizure for two hours. She started oral contraceptive use 45 days before symptom onset. A cranial CT revealed no significant abnormalities. However, catheter angiography demonstrated delayed venous drainage, congestion of the cortical veins, and filling defects in cerebral venous sinuses, consistent with extensive dural sinus thrombosis. **Comments:** MRI is the most sensitive technique for visualizing parenchymal or hemorrhagic sequelae of intracranial venous sinus thrombosis. MRI associated with contrast venography offers comparable diagnostic performance in detecting obstructions in intracranial venous structures. Catheter angiography is recommended for cases with inconclusive CT and MRI or for individuals undergoing endovascular procedures.

Keywords: Angiography; Venous thrombosis; Intracranial sinus thrombosis; Lateral sinus thrombosis; Sagittal sinus thrombosis.

RESUMO

Introdução: A trombose do seio venoso cerebral é uma condição rara cujo diagnóstico pode ser realizado pela tomografia computadorizada, ressonância magnética ou por angiografia por cateterismo. **Relato do caso:** Paciente do sexo feminino, 27 anos, com quadro de cefaleia intensa holocraniana, pulsátil retro-ocular e turvação visual, além de crise convulsiva há duas horas. A paciente refere que iniciou o uso de anticoncepcional oral há 1 mês e 15 dias, sendo submetida ao exame de tomografia computadorizada do crânio, no qual não foram evidênciadas alterações significativas. No entanto, no exame de arteriografia cerebral foi evidenciada drenagem venosa apresentando lentificação no fluxo, com congestão importante das veias corticais e falhas de enchimento nos seios venosos cerebrais compatíveis com trombose extensa dos seios durais. **Comentários:** A ressonância magnética é o método mais sensível para visualizar sequelas parenquimatosas e/ou hemorrágicas da trombose do seio venoso cerebral. Por outro lado, a venografia por ressonância magnética quanto a venografia por contraste são métodos quase equivalentes para detectar obstrução das estruturas venosas intracranianas. No entanto, a angiografia por cateter deve sempre ser considerada para pacientes com TC e RM inconclusiva ou para candidatos submetidos a procedimentos endovasculares.

Palavras-chave: Arteriografia; Trombose venosa; Trombose dos seios intracranianos; Trombose do seio lateral; Trombose do seio sagital

INTRODUCTION

Intracranial venous sinus thrombosis (ICVST) is a rare condition, with an annual incidence of about three to four cases per one million individuals, accounting for less than 1% of all strokes[1].

Most adult cases involve individuals aged 40 years or younger[2]. The superior sagittal and the transverse sinuses are the most frequently affected sites (60%), followed by the internal jugular and internal cortical veins (20%)[1]. Predisposing conditions, such as oral contraceptive use, pregnancy, and the puerperium, contribute to the predominance of women among ICVST patients, accounting for about 75% of cases. Obesity combined with oral contraceptive use presents a particularly high risk[2].

In this study, the patient initiated oral contraceptive use 45 days before the onset of symptoms and reported no history of seizures, hypertension, or diabetes. Neurological examination revealed mild neck rigidity, no motor deficits, drowsiness, and a facial expression indicative of intense headache. Fundoscopy demonstrated papilledema more pronounced on the left side.

Non-contrast cranial computed tomography (CT) showed no parenchymal abnormalities; preserved ventricular system topography, morphology, and dimensions; no alterations in the sulci, fissures, and cisterns; no abnormalities in the cerebellum and brain stem. No extra-axial collections were observed, and intracranial angiography was indicated.

The International Study on Cerebral Venous and Dural Sinus Thrombosis, which included 624 individuals, identified the most common symptoms as headache (88.8%), seizures (39.3%), paresis (37.2%), papilledema (28.3%), and mental status changes (22.0%) [3]. Diagnosis may be made by CT, magnetic resonance imaging (MRI), or catheter angiography[1] [2].

Anticoagulation constitutes the cornerstone of ICVST treatment, aiming to block clot propagation and promote venous recanalization. Although clinical trial data are limited, anticoagulation is not contraindicated in intracranial hemorrhage. Endovascular procedures are reserved for individuals presenting severe or rapidly worsening neurological symptoms despite appropriate anticoagulation[1].

The present study aimed to report a rare ICVST diagnosis based on clinical findings and catheter angiography.

CASE REPORT

The study was approved by the research ethics committee of the Faculdade de Medicina of Olinda (no. 43998421.0.0000.8033).

A 27-year-old female patient, referred by the mobile emergency care service, was admitted to the emergency department reporting severe holocranial headache, retroocular pulsation pain, and blurred vision. She also reported having suffered a seizure for two hours.

The examination was conducted through percutaneous puncture of the right common femoral artery, with selective catheterization of the aortic arch, common carotid arteries, and vertebral arteries. Non-ionic iodinated contrast was administered, and digital radiographic imaging was performed.

The following aspects were observed: (1) aortic arch and supra-aortic trunk without abnormalities; (2) internal carotid and vertebrobasilar system with smooth, regular walls, absence of dissections or arteritis, and without abnormalities in intracranial segments; (3) venous drainage demonstrating delayed flow, congestion of cortical veins, and filling defects in the superior sagittal sinus (Figure 1), transverse sinus, right sigmoid sinus, and jugular sinus in the proximal thirds, compatible with extensive thrombosis of the dural sinuses (Figure 2).

The patient received initial treatment with an anticonvulsant (Gardenal 200 mg) and full anticoagulation (Clexane 60 mg) for five days. Clinical improvement was observed during this period, after which anticoagulant therapy was transitioned to oral Warfarin. The patient was discharged after ten days without a headache. Fundoscopy, CT, and electroencephalogram showed no alterations at discharge. Oral anticoagulation with Warfarin was maintained for 12 months, and the patient was referred to a gynecologist for counseling about alternative contraceptive methods.

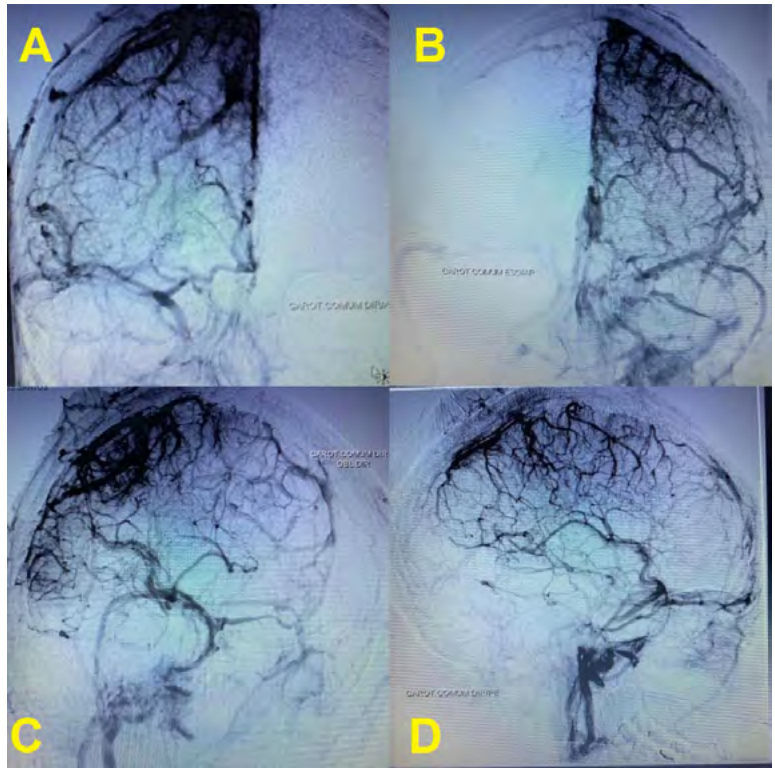

Figure 1. Arteriography of the internal carotid system, showing intracranial venous sinus thrombosis, specifically the superior sagittal sinus (yellow ellipses), with images captured in anteroposterior view showing cerebral venous drainage to the right (A), in anteroposterior view showing cerebral venous drainage to the left (B), in oblique view showing cerebral venous drainage to the right (C), and in profile view showing cerebral venous drainage to the left (D).

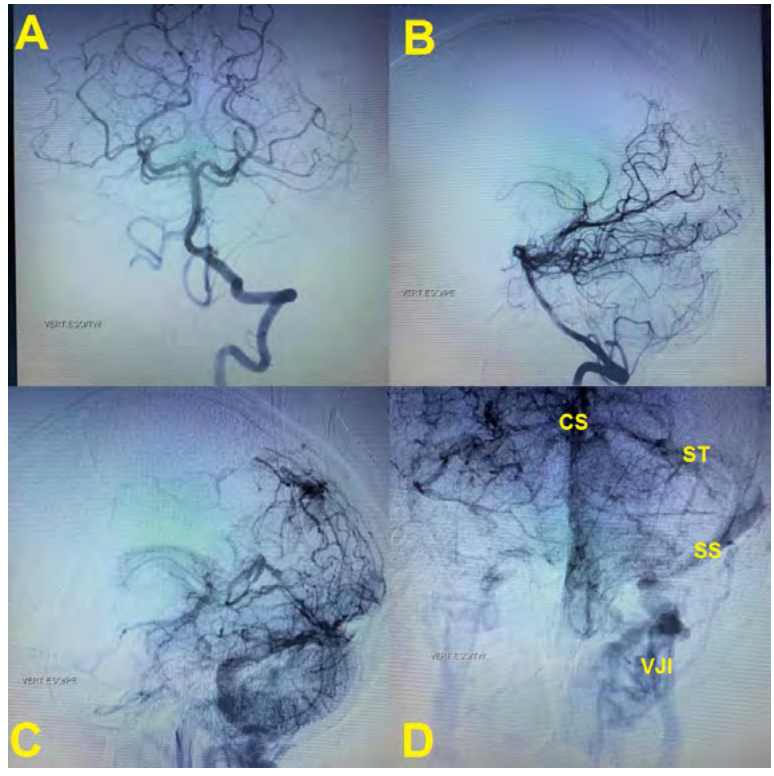

Figure 2. Arteriography of the vertebrobasilar system showing intracranial venous sinus thrombosis. Anteroposterior image of the vertebrobasilar irrigation (A), left profile image of the vertebrobasilar irrigation (B), left profile image of the cerebral drainage (C), and anteroposterior image of the cerebral drainage (D). CS: confluence of sinuses or torcula of Herophilus, TS: transverse sinus, SS: sigmoid sinuses, and IJV: internal jugular vein.

COMMENTS

Considering the variability of collateral venous drainage and the dynamics of ICVST progression, the clinical presentation is highly heterogeneous and often nonspecific. Symptoms may range from acute to chronic, and severity may vary from asymptomatic to coma. Therefore, diagnosis is usually delayed, with an average of seven days from symptom onset to clinical manifestations[3].

Headache is usually the initial manifestation. Due to its specific nature, high clinical suspicion is warranted when faced with a new-onset, progressively worsening headache, which occurs as the sole symptom in about 32% of patients4.

The anatomical location of the headache does not correlate with the site of the thrombosis. The absence of headache is typical in older patients, particularly men5, and in those with cortical vein thrombosis and preserved cerebrospinal fluid homeostasis. The pathophysiological mechanism of headache is attributed to elevated intracranial pressure due to impaired cerebrospinal fluid reabsorption. For this reason, headache intensity tends to increase in the supine position and after the Valsalva maneuver. Although not fully elucidated, headache is more common in patients with ICVST than in arterial stroke, presenting in only 25% of cases6.

Seizures are more frequent in ICVST than in arterial stroke (2% to 9%)7, potentially related to the accumulation of catabolic products due to venous stasis. Papilledema results from intracranial hypertension and may cause diplopia and visual impairment. In the case of cavernous sinus thrombosis, additional manifestations include proptosis, orbital pain, chemosis, and ophthalmoplegia secondary to palsy of the oculomotor (III), trochlear (IV), and abducens (VI) cranial nerves[1]. Non-invasive brain imaging should be promptly performed in all patients with suspected ICVST[2].

For initial adult assessment, the first-line imaging technique is non-contrast intravenous CT to exclude differential diagnoses, such as brain tumors, abscesses, or arterial stroke. In the acute phase, the ICVST may appear as a hyperdense signal in the vessel lumen, transitioning to iso- or hypodense after the first week. Specific radiological signs include the dense triangle sign when the thrombosis is located in the superior sagittal sinus and the dense cord sign in the cortical and deep veins8.

However, these signs are uncommon due to the low sensitivity of non-contrast intravenous CT, with positive findings in only 30% of confirmed ICVST cases9. The use of contrast increases the sensitivity to 99% for sinus thrombosis and 88% for venous thrombosis, similar to those obtained with MRI 10,11. The empty delta sign, a filling defect in the middle of the venous lumen surrounded by peripheral contrast, may also be observed[1].

Non-contrast CT alone is insufficient to exclude ICVST and must be followed by contrast venography, which provides a three-dimensional view of the venous anatomy similar to MRI12 and is considered equally capable of diagnosing ICVST[2]. Furthermore, CT may provide superior visualization of osseous structures adjacent to the venous sinuses in suspected septic thrombosis than MRI[2].

CT offers the advantages of widespread availability in emergency settings and the ability to detect local complications associated with ICVST, such as subarachnoid or intraparenchymal hemorrhage or cerebral edema. The disadvantages include radiation exposure and the requirement for contrast agents to enhance diagnostic accuracy[1].

MRI remains the gold standard for ICVST diagnosis. Nevertheless, the sensitivity and specificity are uncertain due to the lack of adequate comparative studies using catheter angiography. Maximum accuracy is achieved by combining classical MRI sequences, capable of visualizing the thrombus, with venography, which demonstrates absent or diminished flow and distinguishes among hypoplastic sinuses, partial sinus occlusion, thrombosed cortical cerebral veins, and filling defects due to hyperplastic arachnoid granulations13-15. MRI is advantageous due to its absence of radiation exposure, limited need for intravenous contrast, and the ability to estimate the age of the clot [1].

Catheter angiography, formerly the gold standard, is now indicated in specific cases, particularly in patients with inconclusive MRI or CT findings, suspected vascular malformation (e.g., dural fistula), or when endovascular intervention is considered. Although contrast-enhanced transcranial ultrasound was useful in some cases, it has not been established as a diagnostic tool and requires a high level of examiner expertise [2].

In summary, MRI offers the highest sensitivity for visualizing parenchymal or hemorrhagic

sequelae of ICVST. MRI and contrast venography are nearly equivalent to detecting intracranial venous obstruction. Due to its practicality and speed, contrast venography is the initial diagnostic option, even in critically ill patients. However, MRI is preferable in younger individuals, pregnant women, and those with renal failure. Catheter angiography should be reserved for cases with inconclusive CT and MRI or those undergoing endovascular procedures

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EXTRAHEPATIC BILIARY SYSTEM AND THE CYSTOHEPATIC TRIANGLE: ANATOMOTOPOGRAPHIC STUDY

VIAS BILIARES EXTRA-HEPÁTICAS E TRÍGONO CISTOHEPÁTICO: ESTUDO ANATOMOTOPOGRÁFICO

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ABSTRACT

Introduction: The cystohepatic triangle (Calot's triangle) is an anatomical space bounded by the common hepatic duct, the cystic duct (CD), and the inferior border of the liver. This anatomical landmark is crucial for performing cholecystectomy. **Case report:** The abdominal region of a male cadaver was dissected, followed by a dissection of the hepatic pedicle to isolate the studied structures. The hepatocytic junction occurred at 2.6 cm from the hepatic hilum, and the CD junction joined the hepatic duct on its right side. Regarding the structures within the cystohepatic triangle, the space was occupied posteriorly by the portal vein and anteriorly by the cystic artery and right hepatic artery. **Comments:** Detailed knowledge of the topographic anatomy of the abdomen, specifically of the extrahepatic biliary tract and its anatomical variations, is essential to avoid complications in video laparoscopic surgery.

Keywords: Anatomy; bile ducts; cholecystectomy; anatomic variation; cadaver

RESUMO

Introdução: O trígono cistepático (triângulo de Calot) é um espaço anatômico delimitado pelo ducto hepático comum, o ducto cístico e a borda inferior do fígado. A importância desse marco anatômico é indiscutível para a realização da colecistectomia. R**elato do caso:** Foi realizada a dissecação da região abdominal de um cadáver do sexo masculino, seguida pela dissecação do pedículo hepático para individualização das estruturas estudadas. Observou-se que a junção hepatocística se deu a uma distância de 2,6 cm em relação ao hilo hepático, bem como a junção do ducto cístico se fez à direita do ducto hepático. Em relação às estruturas encontradas no trígono cisto hepático, observou-se que este era ocupado pela veia porta-hepática posteriormente e pela artéria cística e artéria hepática direita anteriormente. **Comentários:** Na cirurgia videolaparoscópica é imprescindível o conhecimento detalhado da anatomia topográfica do abdômen, em específico, das vias biliares extra-hepáticas, bem como suas variações anatômicas para evitar complicações durante o procedimento cirúrgico.

Palavras-chave: Anatomia; Ductos Biliares; Colecistectomia; Variação Anatômica; Cadáver

INTRODUCTION

In laparoscopic surgery, detailed knowledge of the topographic anatomy of the abdomen, particularly of the extrahepatic biliary tract and its anatomic variations, is essential to prevent complications during the surgery[1].

The cystohepatic triangle (Calot's triangle) is an anatomical space bounded by the common hepatic duct (CHD), the cystic duct (CD), and the inferior border of the liver. This anatomical landmark is crucial for performing cholecystectomy, which involves ligation of the cystic artery and CD prior to gallbladder removal[1],[2].

Therefore, this study aimed to describe the anatomical characteristics of the cystohepatic triangle in human cadavers, emphasizing its importance for surgical practice.

CASE REPORT

This study was conducted at the Department of Anatomy of the Federal University of Pernambuco. A male cadaver fixed in 10% formalin was dissected in the abdominal region, followed by a dissection of the hepatic pedicle to isolate the studied structures.

For morphometric analysis, a digital caliper was used to measure the length of the common bile duct (CBD), CD, and the distance from the hepatocystic junction to the hepatic hilum (Figure 1). The hepatocystic junction was distanced 2.6 cm from the hepatic hilum, with the CD joining the common hepatic duct (CHD) on its right side (Figure 1). No accessory ducts were observed.

Regarding the structures found in the cystohepatic triangle, the triangle was positioned anteriorly by the cystic artery and right hepatic artery (Figure 2), and posteriorly by the portal vein. The CBD and CD lengths were 2.6 cm and 1.0 cm, respectively (Figure 1).

The CD exhibited a straight anatomical course. The gallbladder was in the anteroinferior portion of the liver, featuring a distinct infundibulum (Hartmann's pouch).

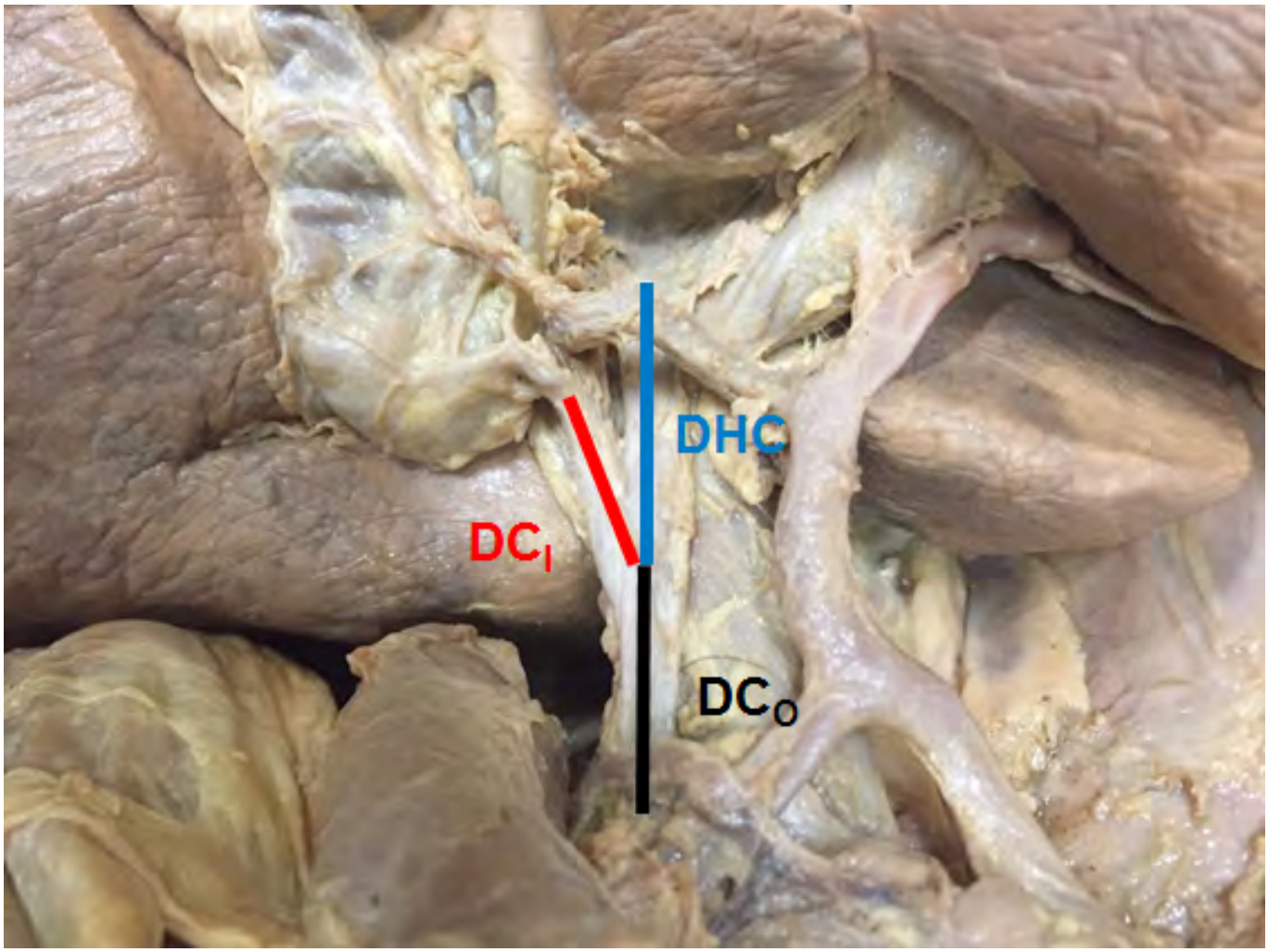

Figure 1. Measurements of the cystohepatic triangle (Calot's triangle). Cystic duct (CD): 1.0 cm (straight), common bile duct (CBD): 2.6 cm, and common hepatic duct (CHD): 2.6 cm.

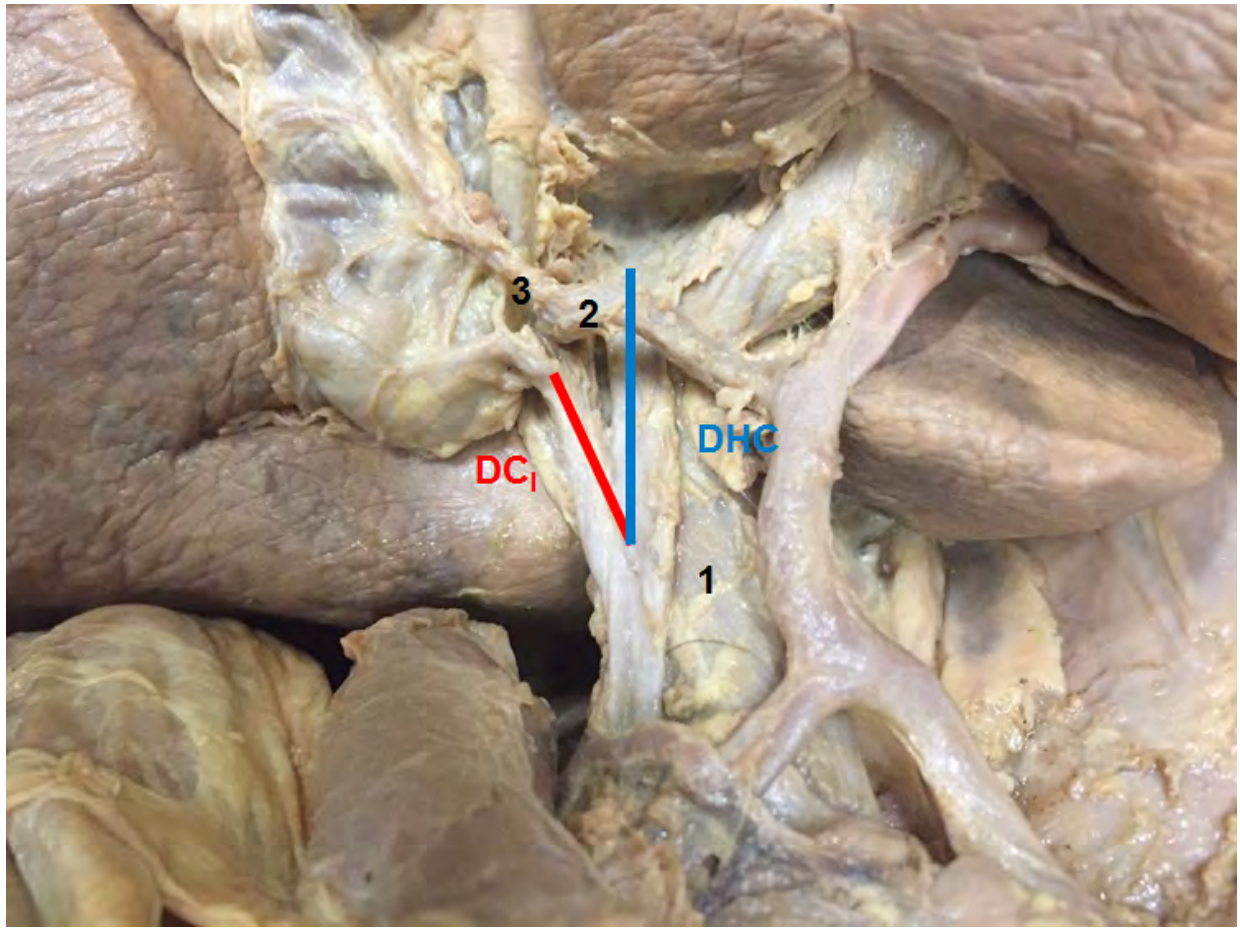

Figure 2. Contents of the cystohepatic triangle (Calot's triangle). Portal vein (1), right hepatic artery (2), and cystic artery (3). Cystic duct (CD), common hepatic duct (CHD).

COMMENTARIES

The hepatocystic junction was positioned 2.6 cm from the hepatic hilum, with the CD joining the CHD on its right side. This finding corroborates an anatomical study in which the junction of the CHD and CD occurred about 2.92 cm from the hepatic hilum in 94% of cases[1].

Evidence suggests that the hepatocystic junction may cause bile stasis and its reflux to the pancreas when positioned too low[3]. This position may also cause lithiasis formation, Mirizzi syndrome, and gallbladder cancer[1].

Several studies reported that the union of the CD with the CBD occurs most frequently on its right side[1,4], as observed in the present study. Other research has reported that this union may also occur posteriorly[3,5] or in both anterior and posterior positions[1].

The CBD and CD lengths were 2.6 cm and 1.0 cm, respectively. While the CD length found was shorter than those reported in the literature[1], evidence suggests that longer CD length correlates with lithiasis formation[3,6,7].

One cause of bile duct injuries is related to the junction of the CD with the CHD, in which the CBD may be mistaken for a wide CD, leading to a CBD injury[8].

In the present study, the CD exhibited a straight morphological course. This finding aligns with a study that found that 54% of samples presented straight morphology, while 46% showed a spiral configuration[1]. Anatomical variations, such as aberrant CD and bile ducts emerging directly from the right hepatic lobe to the gallbladder, may lead to postoperative complications and have been described as responsible for bile leakage after cholecystectomy[8].

In this study, the gallbladder was in the anteroinferior portion of the liver, corroborating previous findings reporting this position in 52% of cases[1]. However, other studies described the gallbladder fundus in the posteroinferior liver region[9] or on the left side[10]. Additional anatomical variants include congenital absence of the gallbladder and CD[11] and double gallbladder[12].

In cases of double gallbladder, diagnosis should be established during surgery to avoid injury to the main bile duct, requiring intraoperative cholangiography to verify main bile duct integrity. The gallbladder examination after surgery is crucial for definitive diagnosis[13].

Gallbladder perforation occurs in 20% to 30% of cholecystectomies, with bile and stone spillage. In some cases, unrecovered stones may remain in the abdominal cavity, potentially causing granulomas, intestinal obstruction, or stone migration to other regions[14].

Regarding the most prevalent structures in the cystohepatic triangle, studies1,15 reported the cystic artery and common hepatic artery with frequencies of 56% to 90% and 34% to 82%, respectively; the portal vein was described in 36% of cases[1]. Failure to identify these structures may cause serious injuries during laparoscopic surgeries[8].

A study investigating the main complications of laparoscopic gallbladder and extrahepatic bile duct surgery categorized the principal causes of these complications into two groups: first, the inexperience of surgeons with the technique (learning curve), and second, anatomical variations that even experienced surgeons may encounter[8].

The topography of the extrahepatic biliary tract demonstrated significant anatomical variations. Thus, surgeons must possess a thorough knowledge of this region to minimize iatrogenic injuries.

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OBESITY AND COVID-19: THE "MORTAL MARRIAGE" FOR ADULTS?

OBESIDADE E COVID-19: O "CASAMENTO MORTAL" PARA ADULTOS?

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ABSTRACT

Objective: The study aimed to conduct a systematic review to investigate association between obesity and increased COVID-19 mortality. **Methods:** A systematic review was performed using the PubMed, BIREME, and LILACS databases with DeCS/MeSH descriptors, including studies related to obesity and COVID-19 mortality. The search was conducted in English, Portuguese, and Spanish from December 2019 to September 2020. **Results:** Five studies met the inclusion criteria, and two studies showed no significant association ($p > 0.05$) for body mass index (BMI) ≥ 30 and ≥ 40. In adults, the increased mortality rate associated with obesity was significant in two studies with BMI > 30 ($p = 0.0046$) and ≥ 35 ($p = 0.030$). These findings corroborate mortality data for BMI ≥ 40 ($p = 0.02$) and higher intensive care unit admission rates for BMI ≥ 35 ($p < 0.0001$) and between 30 and 34 ($p = 0.006$). **Conclusion:** A correlation between obesity and increased COVID-19 mortality was observed, emphasizing the importance of appropriate treatment of obesity to prevent severe forms of COVID-19.

Keywords: Obesity; COVID-19; Mortality; Hospitalization

RESUMO

Objetivo: Realização de uma revisão sistemática que aborda a associação entre o aumento da mortalidade por COVID-19 relacionada à obesidade. **Métodos:** Foi desenvolvida uma revisão sistemática a partir das bases de dados PubMed, BIREME e LILACS, via descritores DeCS/MeSH, incluindo estudos que abordassem a temática mortalidade por COVID-19 relacionada à obesidade. Os idiomas utilizados foram inglês, português e espanhol. O levantamento bibliográfico foi realizado no período entre dezembro de 2019 e setembro de 2020. **Resultados:** Do total de artigos selecionados, 5 atenderam aos critérios de inclusão, porém, dentre eles, 2 não apresentaram significância ($p > 0,05$), sendo um para IMC ≥ 30 e o outro para IMC ≥ 40. Em populações de adultos, a relação de incremento da mortalidade associado ou não à obesidade teve significância em 2 estudos direto para IMC > 30 ($p = 0,0046$) e IMC ≥ 35 ($p = 0,030$), corroborados por dados de mortalidade para IMC ≥ 40 ($p = 0,02$) e maior admissão na UTI com IMC ≥ 35 ($p < 0,0001$) e IMC 30–34 ($p = 0,006$). **Conclusão:** Definiu-se que há uma correlação entre obesidade e o aumento da mortalidade na infecção por COVID-19, reforçando a relevância do adequado tratamento dessa doença crônica na prevenção de formas graves de COVID-19.

Palavras-chave: Obesidade; COVID-19; Mortalidade; Hospitalização

INTRODUCTION

The first confirmed case of SARS-CoV-2, the virus responsible for COVID-19, was reported to the World Health Organization on December 31, 2019, by Chinese authorities in Wuhan, Hubei, China. Less than four months later, on March 12, 2020, the World Health Organization declared a global pandemic[1].

Experts identified the clinical syndrome, which presented as a respiratory illness with high transmissibility, pathogenicity, morbidity, and mortality[2,3]. COVID-19 leads to respiratory infection characterized by symptoms ranging from mild to severe, such as dry cough, fever, and dyspnea, within 14 days after exposure[1]. Studies identified comorbidities associated with worse outcomes, including diabetes, hypertension, cardiovascular diseases, chronic obstructive pulmonary disease, malignancy, and chronic liver disease[2,3].

Obesity has been identified as a risk factor for increased severity of viral infections. During the 2009 H1N1 outbreak, studies reported that patients with obesity needed more mechanical ventilation and exhibited higher mortality rates. This disproportionate impact of viral illness on patients with obesity suggests a potential risk factor that requires further investigation in the context of the COVID-19 pandemic[4,5].

METHODS

This systematic review was conducted using the databases Latin American and Caribbean Literature in Health Sciences (LILACS), the US National Library of Medicine/National Institutes of Health (PubMed), and the Virtual Health Library (BVS-BIREME) via Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH). The search covered publications from December 2019 to September 2020. The descriptors used were obesity, COVID-19, mortality, and hospitalization.

Studies that examined the association between COVID-19 mortality and obesity were included. The search was conducted in English, Portuguese, and Spanish. The filter "young adult: 19 - 24" was applied, although studies with a higher mean age were not excluded. Studies on COVID-19 mortality with other conditions unrelated to obesity were excluded.

The selection of studies occurred in three stages. First, titles were screened based on the combination of descriptors. Studies that did not meet the eligibility criteria were excluded, along with those with ambiguous or unclear titles. Second, the abstracts were reviewed, and those that not meet the eligibility criteria were excluded. Third, full texts of remaining studies were evaluated, along with additional studies intentionally included for concept definition.

Ten studies were found in the PubMed database. Of these, two were excluded based on their titles, eight abstracts were read, and five were discarded, remaining three studies. In the BVS-BIREME database, five studies were identified that overlapped with the PubMed results. The LILACS database did not show studies using the descriptors. Therefore, no studies from this source were included in the study. After, two additional studies from PubMed were intentionally included and the final sample consisted of five studies.

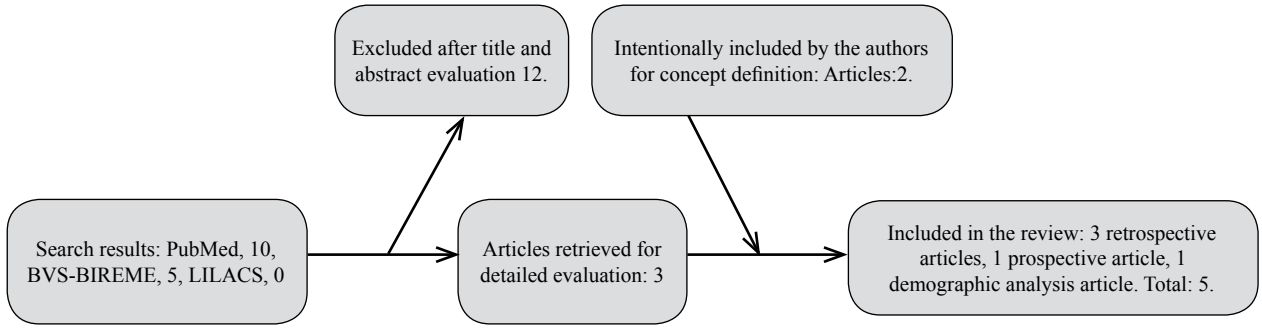

Figure 1. Flowchart of the process of study selections.

RESULTS

The main findings from the five selected studies are presented in Table 1. Steinberg et al. (2020)[4] analyzed mortality in patients aged 18 and 45 years who tested positive for SARS-CoV-2 via real-time reverse transcription polymerase chain reaction (RT -PCR) using nasopharyngeal swab.

This retrospective cohort study was conducted at a high-volume academic medical center in an urban area and an affiliated suburban community hospital. Each results chart was reviewed by at least two investigators and three principal investigators to ensure consensus. Although none of the principal investigators were blinded to the study hypothesis, all variables of interest and goals were clearly defined to minimize interpretive ambiguity. The study included 210 patient charts with demographic data [age, sex, body mass index (BMI)] and three primary outcomes: in-hospital mortality, invasive mechanical ventilation requirement, and hospital admission[4].

Patients who died had a mean BMI of 37.97 (± 7.27) compared with 29.75 (± 6.21) of survivors. In-hospital mortality was significantly associated with a BMI higher than 30 ($p = 0.0046$), suggesting that obesity is an independent risk factor for poor outcomes in young patients with COVID-19[4].

Cummings et al. (2020)6 performed a prospective observational cohort study in two Presbyterian hospitals in New York affiliated with Columbia University Irving Medical Center in northern Manhattan. Patients aged above 18 years, admitted between March 2 and April 1, 2020, with laboratory-confirmed COVID-19 and presenting severe acute hypoxemic respiratory failure were included. RT-PCR confirmed SARS-CoV-2 infection on nasopharyngeal or oropharyngeal swabs tested by the New York State Department of Health between March 2 and March 10, 2020[6].

Among the 1,150 patients who were hospitalized, 257 (22%) were critically ill. The mean period of observation after hospital admission was 19 days. The mean age was 62 years, and 119 (46%) of the critically ill patients had obesity (BMI ≥ 30). The study concluded that severe obesity (BMI ≥ 40) was not a independent risk factor for mortality[6].

The Shah et al. (2020)7 study was conducted at Phoebe Putney Health System, the largest community healthcare system in southwest Georgia, which serves over 500,000 people. Patients with COVID-19, confirmed via nasopharyngeal swab and RT-PCR, were hospitalized from May 2 to May 6, 2020. The mean age was 63 years, with 58.2% women and 66.5% had obesity[7].

Morbid obesity (BMI ≥ 40) was present in 25.6% of patients. Of the total 522 patients, 92 (17.6%) died and 430 (82.4%) were discharged. Obesity with a BMI between 30 and 40 was not significant ($p = 0.21$), and morbid obesity was significantly associated with in-hospital mortality ($p = 0.02$), being considered an independent predictor[7].

Lighter et al. (2020)8 retrospectively analyzed BMI by age in symptomatic patients with COVID-19 at a large academic hospital system in New York City, with positive diagnoses confirmed by PCR, between March 3 and April 4, 2020. Critical care was defined based on intensive care admission or documentation of invasive ventilation in electronic medical records8. Among the 3,615 patients who tested positive, 775 (21%) had a BMI between 30 and 34, while 595 (16%) had a BMI of 35 or higher. In total, 1,853 (51%) were discharged from the emergency department, 1,331 (37%) were hospitalized for acute care, and 431 (12%) were directly admitted or transferred to intensive care[8].

Patients aged under 60 years and with a BMI between 30 and 34 had twofold increase in requiring acute care ($p < 0.0001$) and 1.8-fold in needing intensive care ($p = 0.006$) compared with patients with a BMI under 30. Similarly, patients younger than 60 years and with BMI of 35 or higher had 2.2- ($p < 0.0001$) and 3.6- ($p < 0.0001$) fold increased risk of admission to acute and intensive care, respectively. The study suggested that patients with obesity and aged under 60 represent a new epidemiological risk factor contributing to increased morbidity rates in the United States[8].

The retrospective cohort study of Palaiodimos et al. (2020)[9] was conducted at the Montefiore Medical Center, an academic tertiary hospital in the Bronx, New York. The first 200 patients with laboratory-confirmed COVID-19 who were admitted to inpatient medical service or intensive care unit were included and followed for three weeks after admission. Admissions ranged from March 9 to March 22, 2020, with follow-up ending on April 12, 2020[9].

Patients were divided into three groups based on the most recent BMI recorded before or during admission: BMI < 25, 25 ≤ BMI ≤ 34, and BMI ≥ 35.

Severe obesity was defined as a BMI of 35 or higher. A logistic regression model was used to assess baseline variables associated with in-hospital mortality, intubation, and oxygen requirement. The BMI range of 25 to 34 was a reference for dichotomous comparisons with patients who had severe obesity. The mean age was 64 years (IQR: 50 – 73.5)[9].

In-hospital mortality occurred in 24% of patients with higher or severe obesity (BMI < 25: 31.6%; 25 ≤ BMI≤ 34: 17.2%; BMI ≥ 35: 34.8%, p = 0.030). Additionally, patients with severe obesity had a greater need for oxygen (p = 0.004) and were more likely to undergo intubation (BMI < 25: 18.4%; BMI 25 to 34: 16.4%; BMI ≥ 35: 34.8%, p = 0.032)[9].

The study suggested that severe obesity is an independent risk factor for mortality, intubation, and oxygen requirement during COVID-19 hospitalization[9].

Author/year	Sample size	Evaluation of the studied procedure	Individualized p-value /univariate HR* (95% IC)
Cumming M.J. *et al.* (2020)	257	Higher mortality with BMI ≥ 40	HR = 0.76
Steinberg E. *et al.* (2020)	210	Higher mortality with BMI > 30	p = 0.0046
Shah P. *et al*. (2020)	522	Higher mortality with BMI ≥ 30	p = 0.21
Shah P. *et al*. (2020)	522	Higher mortality with BMI ≥ 40	p = 0.02
Lighter J. *et al*. (2020)	3615	Higher ICU admission 30 ≤ BMI ≤ 34	p = 0.006
Lighter J. *et al*. (2020)	3615	Higher ICU admission BMI ≥ 35	p < 0.0001
Palaiodimos L. *et al*. (2020)	200	Higher mortality with BMI ≥ 35	p = 0.030

Table 1. Selected studies, goals, and results.

*HR: Relative Risk; BMI: body mass index; ICU: intensive care unit

DISCUSSION

Considering the results obtained, a few studies have directly examined obesity as an independent risk factor for COVID-19 mortality. The selected studies were methodologically heterogeneous, which limited comparisons due to diverse variables and associations. However, Palaiodimos et al. (2020)4, Steinberg et al. (2020)7, and Shah et al. (2020)9 reported direct associations between increased COVID-19 mortality and populations with BMI ≥ 35, > 30, and ≥ 40, respectively.

The study by Lighter et al. (2020)8, involving 3,615 patients, demonstrated an increased rate of intensive care unit admissions in patients aged under 60 years with a of 35 or higher, or between 30 and 34. Moreover, Palaiodimos et al. (2020)9 observed an increased need for intubation and supplemental oxygen during hospitalization in patients with a BMI of 35 or higher, which corroborates the findings of Lighter et al. (2020), suggesting a link between higher BMI and disease severity. These results are significant in COVID-19 mortality8,9.

Cumming et al. (2020)6 identified several comorbidities, such as hypertension, chronic heart disease, pulmonary disease, and diabetes, associated with mortality from COVID-19, with were assessed as relative risk, with a hazard ratio of 0.76. Although a hazard ratio below one does not indicate an independent risk factor, this does not imply irrelevance, as it contributes to the observed mortality outcomes4-6.

The limitation of this systematic review was the scarcity of studies on increased COVID-19 mortality associated exclusively with obesity. Most studies assess a set of comorbidities that include obesity due to its cause-and-effect relationship. Therefore, further studies are needed to evaluate the impact of obesity on mortality in patients with COVID-19.

CONCLUSION

A correlation between obesity and increased mortality in SARS-CoV-2 infection was identified, which reinforces the importance of proper management of obesity to prevent severe forms of COVID-19.

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REVIEW ARTICLE

FORENSIC MEDICAL EXAMINATION AND INDICATIVE FINDINGS OF SEXUAL VIOLENCE AGAINST WOMEN

A PERÍCIA MÉDICO-LEGAL E OS ACHADOS SUGESTIVOS DE VIOLÊNCIA SEXUAL CONTRA A MULHER

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ABSTRACT

INTRODUCTION: Sexual violence against women is a universal issue that involves physical and psychological harm. Although this violence presents specific characteristics, most cases remain unresolved because victims often remain silent due to several reasons, including fear of the perpetrator and impunity due to insufficient proof. In this context, forensic medical examinations conducted by official state institutions become crucial in aiding the justice system in uncovering the truth and resolving these cases. **OBJECTIVE:** To perform a narrative review of the potential findings in forensic medical examinations that indicate the occurrence of alleged sexual violence against women. **METHODS:** This narrative review focused on forensic sexology and its indicative findings of sexual violence against women. Data were based on 12 studies published in the last ten years indexed in the LILAC, SCIELO, and MEDLINE databases; the search encompassed the following terms: forensic sexology, findings, sexual violence, and women. **RESULTS:** The high incidence of sexual violence against women remains a pressing issue in Brazil, as most women refrain from reporting the incident because they think that they will be discredited by the authorities, feel ashamed, or fear the impunity of the perpetrator. Thus, forensic medical examinations in rape cases are useful for investigating suspects, as the information collected may favor the victim. These tests are conducted at the Institute of Forensic Medicine, and the professionals provide a supportive and cautious approach throughout the medical procedure. C**ONCLUSION:** Forensic medical examinations and their findings are valuable in confirming sexual violence against women. Decisive findings in the forensic medical examination (e.g., the collection of biological material for genetic analysis) are crucial. Moreover, a humanized and detailed approach, combined with other indicative findings, supports the report of the examiner and enables the recovery and legal security of the victim.

Keywords: Forensic medical examination. Sexual violence. Woman.

RESUMO

INTRODUÇÃO: A violência sexual contra a mulher possui proporção universal e não configura a violência apenas por meios coercitivos de agressão ao seu corpo: afeta a vítima tanto no aspecto físico quanto no psicológico. Embora esse tipo de violência deixe seus vestígios bem definidos, a maioria dos casos fica sem resolução, pois a vítima, na maioria das vezes, se cala em razão de uma série de motivos, principalmente por temor ao agressor e por sua não responsabilização devido à ausência de provas. Nesse cenário, a perícia realizada em órgão oficial do Estado se torna imperiosa ao auxiliar a justiça na busca pela verdade e na solução desses casos. **OBJETIVO:** Realizar uma revisão narrativa a respeito dos possíveis achados que indicam a ocorrência de uma suposta violência sexual contra a mulher em uma perícia médico-legal. **MÉTODOS:** Foi desenvolvida uma revisão narrativa pautada na análise de 12 artigos publicados nos últimos 10 anos nas bases de dados da biblioteca virtual de saúde LILACS, SCIELO e MEDLINE. Esta revisão versa sobre a perícia sexológica e seus achados indicativos de violência sexual em mulheres pela utilização dos seguintes descritores: perícia sexológica, achados, violência sexual e mulher. **RESULTADOS:** O alto índice de violência sexual contra a mulher é uma questão ainda latente no Brasil, pois a maioria das mulheres insiste em não registrar o ocorrido, seja por receio de que as autoridades não acreditem em sua palavra, vergonha

do fato ou por temerem a impunidade do autor do crime. Assim, a perícia médico-legal em casos de estupro se mostra um instrumento comprobatório essencial para a investigação do suspeito. Com ela, é possível reunir os elementos constitutivos do exame de corpo de delito para serem usados a favor da vítima por uma série de exames específicos realizados no instituto de medicina legal, além de proporcionar acolhimento e ensejar abordagem cautelosa, detalhada e paciente em relação à mulher durante todo o procedimento médico. **CONCLUSÃO:** Em suma, percebe-se que não há outro meio de analisar um fato, supostamente de origem criminal, que não seja a partir da avaliação e valoração de prova pericial. Existem achados decisivos para concluir casos de violência sexual na perícia sexológica; dentre eles, destaca-se a coleta de material biológico para análise e identificação genética do suspeito. Assim, um atendimento humanizado, atencioso e detalhado, somado ao maior número de achados possíveis indicativos de violência sexual na vítima para embasar o laudo realizado pelo Perito Médico Legista, possibilita um resgate moral e a segurança jurídica de que ela necessita após o infortuno.

Palavras-chave: Perícia Médico-legal. Violência sexual. Mulher.

INTRODUCTION

Sexual violence is a public health issue that causes severe biopsychological harm in women.[1] Following physical, moral, and mental damage, victims need clinical and forensic care, as well as legal protection provided by the justice system.[1,2]

Brazilian legislation defines rape as "coercing someone, through violence or severe threat, to engage in sexual acts or to perform or allow another libidinous act to be performed".[3,4] Despite the reformulation of Law No. 12.015 in 2009 to include male victims,[5] women remain the most affected.

The Institute of Forensic Medicine (IML) in Brazil is the official institution responsible for providing forensic medical reports in rape cases to aid investigations.[6] These reports are crucial for judicial decisions, as cases that lack material evidence lead to suspect release.[6] The role of the public health in preventing sexual violence has grown over time, providing better support to victims in hospitals[6], guiding them to report incidents to the police, and ensuring they undergo a forensic medical examination at the IML.

Given the relevant role of forensic medical examinations in judicial decisions on sexual crimes, this study evaluates common findings that indicate sexual violence against women, such as DNA collection from the perpetrator.[5] Additionally, victims should be referred to a multidisciplinary healthcare team (e.g., gynecologists, nurses, psychologists, social workers, and psychiatrists) for comprehensive care, including preventive measures of emergency contraception and sexually transmitted diseases. These measures will promote physical, psychological, and social recovery in the short- and long-term, including assistance with pregnancy resulting from rape, as recommended by the Ministry of Health.[1,2]

This narrative review compiles elements observed during forensic medical examinations for sexual crimes, ensuring the rights of the victims, and encouraging women to report to reduce the rate of unreported cases across Brazil.

The importance of this review relies on using its findings to mitigate the physical and mental effects of sexual violence. It also underscores the need for forensic examinations to prevent greater psychological vulnerability.

METHODS

This narrative review was based on studies published between 2010 and 2020 on SCIELO, PubMed, and LILACS databases. The search employed the following descriptors: forensic sexology, findings, violence, and women.

The included studies were in English, Portuguese, or Spanish. Selection criteria focused on themes related to sexual violence against women, forensic medical examinations, indicative findings of sexual assault, and current legislation. Additionally, books by renowned authors and the Ministry of Health manual were used to support the theoretical content and deepen the analysis of the topic.

RESULTS AND DISCUSSION

According to the included studies, only 8% to 10% of victims reported sexual crimes to the police and underwent the forensic medical examination at the IML in Brazil; this percentage was reduced to 5% among high school adolescents.[7,8] These findings highlight significant underreporting of sexual crimes

by the victims.

Sexological expertise: conducting forensic medical examination on the victim.

According to the guidelines of the Ministry of Health on preventing and treating the consequences of sexual violence against women and adolescents, victims must be informed about the procedures conducted by the forensic medical examiner. Their decision to undergo the examination must be respected, and the environment should be as supportive as possible.[1,2] Professional confidentiality must be maintained, and victims should receive priority and humanized care upon their arrival for the examination.[1,3]

A thorough history of the incident should be collected. This process requires caution, patience, and courtesy, as recalling the assault can be traumatic for the victim.[1,3] After the examination, the victim must be referred to a multidisciplinary team for follow-up care.[3,9]

Searching for Indicative Findings of Sexual Violence

During the examination, the forensic examiner must observe signs to support the forensic report.1 Key indicators of sexual violence include examining for external genital injuries, pubic hair combings, biological samples (semen on the skin), and body marks indicating suction or bite marks on breasts and lips.[4,6]

A thorough gynecological examination is essential to identify signs of sexual intercourse. The examiner should detail the characteristics of the hymen, particularly the hymenal rim, noting any notches or ruptures.[6,4] Hymenal rupture is characterized by complete depth from the hymenal rim to the vaginal wall, irregular edges, asymmetry, and recent hemorrhagic infiltration.[13]

The anus should also be examined to identify rupture, suffusion, tearing of anorectal and perineal walls, bruising, anal dilation, and hemorrhage. Blood and saliva swabs from the perpetrator should be collected for DNA testing[5,6]; the latter should be collected using sterile saline.[6]

Biological evidence of forensic interest can be found in many assault cases and is crucial in those sexual ones.[12,13,15] Moreover, studies observed that human DNA collection is useful for suspect identification, and it is the most effective procedure for legal evidence. For optimal results, this collection should occur within 72 hours of the sexual assault.[5]

Examination in Cases of Compliant Hymen or Women with Sexual History

In cases involving a compliant hymen or women with a sexual history, it is crucial to confirm potential pregnancy and the presence of sperm in the vaginal cavity.[6,7,10]

Studies showed that the presence of acid phosphatase or glycoprotein p30 originating from prostatic fluid, along with the examination for deep venereal contamination, can be decisive in confirming sexual assault.[8,10]

FINAL CONSIDERATIONS

Forensic medical examinations and their findings are valuable in confirming sexual violence against women.

Forensic sexology in rape cases is a sensitive and serious theme. Women are emotionally and psychologically vulnerable after the incident and should receive ideal support in specific facilities for the examination.[1,2,8]

Thus, forensic procedures must be prudent and cautious in affirming or denying indicative findings of sexual assault.[8,9,15]

In severe assault cases, forensic medical examinations are crucial for providing judicial authorities with a clear understanding of the injuries and harm of the victim. They also play a vital role in supporting the victim from arrival at the competent institution to referral to a multidisciplinary team for necessary physical, emotional, and psychological recovery.

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REVIEW ARTICLE

IMPACT OF THE COVID-19 ON THE DIAGNOSIS AND TREATMENT OF UROLOGIC CANCER: A LITERATURE REVIEW

O IMPACTO DA COVID-19 NO DIAGNÓSTICO E TRATAMENTO DO CÂNCER UROLÓGICO: UMA REVISÃO DA LITERATURA

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ABSTRACT

INTRODUCTION: At the end of 2019, a new disease caused by the SARS-CoV-2 virus emerged in Wuhan, China, leading to severe acute respiratory syndrome. This disease rapidly escalated into an unprecedented global health crisis, resulting in overcrowded hospitals and the suspension of non-urgent medical care. The implementation of surgical prioritization protocols was among the most significant challenges faced by urologists during the pandemic, as it led to a rise in postponed cancer surgeries. **OBJECTIVES:** To describe the impact of the COVID-19 pandemic on the treatment of urologic cancers. **METHODS:** This literature review included studies published in 2020. The literature search was conducted using SciELO and PubMed databases. D**ISCUSSION:** This literature review highlighted the global impact of the COVID-19 pandemic on surgical and oncological practices in urology. Postponing certain surgeries may contribute to short-term cancer progression, increased cancer-specific mortality, and psychological consequences, such as anxiety and depression. **CONCLUSION:** Most studies on the topic highlighted the crucial role of physicians in assessing the risk profiles (i.e., disease severity and hospitalization needs) of patients. Additionally, the development of well-structured prioritization protocols by multidisciplinary teams is essential to minimize the negative consequences of delayed surgeries on patient outcomes.

Keywords: COVID-19; Pandemic; Cancer treatment; Genitourinary; Urology

RESUMO

INTRODUÇÃO: No final de 2019, foi relatado o surgimento de uma nova doença causada pelo SARS-CoV-2, originário de Wuhan, China, responsável por gerar uma síndrome respiratória aguda grave. Assim, instaurou-se uma crise de saúde sem precedentes, lotando os hospitais e ocasionando o cancelamento de atendimentos médicos não urgentes. Os novos protocolos de priorização cirúrgica têm aumentado o adiamento de cirurgias oncológicas, configurando um impacto desafiador para os urologistas nessa pandemia. **OBJETIVO:** Descrever o impacto da pandemia do coronavírus no tratamento dos cânceres urológicos, baseado em dados da literatura. **MÉTODOS:** O presente estudo consiste em uma revisão de literatura que apresenta dados provenientes de artigos científicos publicados no ano de 2020. A busca desses artigos foi realizada nos bancos de dados SciELO e PubMed. **DISCUSSÃO:** O trabalho procurou relatar os efeitos globais da pandemia de COVID-19 na prática de clínica cirúrgica e oncológica em urologia, indicando que o adiamento de certas cirurgias pode causar progressão clínica de curto prazo do câncer, aumento da mortalidade específica por câncer e alguns danos psicológicos, como ansiedade e depressão. **CONCLUSÃO:** Conforme explanado, a maioria dos artigos sobre o tema mostra papel fundamental que o médico desempenha na classificação dos pacientes quanto aos riscos de sua doença e de internação, bem como a importância do desenvolvimento de protocolos por equipes multidisciplinares para categorizar as prioridades da melhor maneira e minimizar os prejuízos desses adiamentos cirúrgicos para os pacientes.

Palavras-chave: COVID-19; Pandemia; Tratamento de câncer; Geniturinário; Urologia

INTRODUCTION

In late 2019, researchers identified a novel disease caused by the SARS-CoV-2 virus in Wuhan, China, which was linked to severe acute respiratory syndrome. Within five months, the disease spread to over 200 countries and was considered a pandemic in March 2020. As COVID-19 infections rapidly increased, healthcare practices changed, affecting healthcare systems and individual care. An unprecedented crisis was established as hospitals and clinics became overwhelmed with suspected and confirmed cases of COVID-19, resulting in successive cancellations of non-urgent medical appointments, including those for cancer patients. Among individuals infected with COVID-19, those living with cancer were at higher risk of poor outcomes. Consequently, clinical guidelines for managing COVID-19 recommended reducing the use of chemotherapy in this population to prevent further impairment of their immune systems[1,2,5,6].

Due to the urgent need to allocate hospital beds and healthcare professionals to care for patients affected by the new disease, the treatment of cancer patients classified as elective was postponed. Surgical departments worldwide restricted their activities, maintaining only high-priority procedures. In some cases, over 80% of patients fell under the category of non-urgent or elective care. However, the interpretation of what constitutes essential care is under significant debate, creating uncertainty about whether certain treatments can or should be delayed[1,2].

Although delaying certain treatments may be needed, the ethical implications must be considered when these delays can lead to disease progression, increased cancer-related mortality, and potentially irreversible psychological harm to patients[5,6].

METHODS

This literature review searched studies published in 2020 in SciELO and PubMed databases. The descriptors used included COVID-19, Pandemic, Cancer Treatment, Genitourinary, and Urology. The initial search found 71 studies; however, only those that met the eligibility criteria were included. Thus, nine studies were included, and all addressed the impact of COVID-19 on cancer treatment and discussed the harms and benefits of treatment delays during the pandemic.

DISCUSSION

The global impact of the COVID-19 pandemic on surgical and oncological clinical practices in urology has been widely discussed in previous studies[1-9]. These studies highlighted the overwhelming strain on healthcare systems and the postponement of surgeries for cancer patients to reduce the exposure of surgical teams and patients to potential COVID-19 contamination. Additionally, the high demand for personal protective equipment, intensive care unit beds, and ventilators hindered surgical practices, contributing to the urgent need to postpone treatment for these patients[3, 9].

In this context, physicians must weigh the risks associated with delaying oncological care for patients experiencing disease progression against the likelihood of COVID-19 infection during (neo) adjuvant or palliative therapy. Prioritization and triage protocols for cancer treatment during the pandemic have been introduced to assess which treatments can be delayed. Additionally, surgical departments were instructed to evaluate the reduction and prioritization of surgeries. Some authors recommend avoiding laparoscopic or robotic surgeries when possible. However, when these procedures are needed, they should be performed by experienced surgeons to reduce surgical time and postoperative complications[3,4,7].

Surgical prioritization protocols have led to moderate cancellation rates of oncological surgeries and reduced treatment, proving to be one of the greatest challenges for urologists during the pandemic. Physicians worldwide have faced not only ethical dilemmas but also the limited capacity of intensive care units due to reduced resources and the concentration of medical team efforts on treating COVID-19 patients.

Interestingly, the cancellation rates of oncological surgeries did not differ between high-risk and low-risk countries during the pandemic. However, the cancellation of non-oncological surgeries was higher in countries with a high-risk index.

The treatment of some types of tumors was prioritized due to their higher likelihood of progression, directly impacting mortality rates. Conversely, the recommendation for postoperative recovery in intensive care units hindered the performance of major surgeries, even though these were categorized as priority tumors, such as cystectomy for urothelial tumors. In urology, the estimated rate of suspension

of elective surgeries for oncological conditions was 36.6%, while for benign diseases, it was 81.7%[3,6,8].

This type of suspension raises serious ethical concerns, as delays may result in short-term cancer progression and increased cancer-specific mortality. Additionally, in oncology, the spread of disease and cancer-related mortality must be considered for palliative and (neo)adjuvant treatments, weighing the risk of COVID-19 infection and its associated resource demands[7,8]. In response, many urologists have made adjustments to their clinical practices due to the COVID-19 pandemic, including canceling, postponing, or replacing in-person visits with telemedicine. These decisions are directly linked to the global changes in the treatment of cancer patients during the pandemic[4].

Social distancing and isolation caused psychological issues in the general population, including stress, loss of motivation, and reduced self-esteem. These factors, combined with the repercussions of treatment delays for patients considered elective, exacerbated the well-known effects of a cancer diagnosis, such as anxiety and depression. Women and younger patients were the most affected by this condition[8]. For patients with an expectant strategy, the wait for cancer treatment worsened their mental health. Literature reports that individuals with prostate cancer and small renal tumors were the most affected by these issues; they were the most impacted by treatment delays due to the low aggressiveness of their tumors[8].

CONCLUSION

The COVID-19 pandemic impacted cancer patients in several ways. The need to postpone certain treatments placed the responsibility on physicians to classify patients based on the risks of their disease and hospitalization, affecting the clinical practice of most urologists worldwide. This situation also had psychological repercussions, causing distress and anxiety among patients. In this regard, physicians play a crucial role in assessing the severity of the disease of their patients, as well as providing psychological support and clarifying the scenario to reassure them.

Therefore, it is essential to understand the best way to address the psychological and behavioral issues of this population to minimize the harm caused by these traumas. Multidisciplinary teams should develop protocols to prioritize cases effectively, identifying those that can be postponed with minimal harm to the patients.

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THE ROLE OF PRIMARY HEALTH CARE IN FACING STI: AN EXPERIENCE REPORT

O PAPEL DA ATENÇÃO PRIMÁRIA À SAÚDE NO ENFRENTAMENTO DE IST: UM RELATO DE EXPERIÊNCIA

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ABSTRACT

Primary health care is the preferred entry point for users of the Brazilian Unified Health System. It allows early diagnosis and treatment of sexually transmitted infections (STIs), such as hepatitis B and C, HIV, and syphilis. This experience report described an action aimed at users of a Basic Health Unit (BHU) to improve their adherence to STI care and minimize its associated risks. This study was developed during the practical activities of undergraduate medical students at the Jardim Brasil V BHU in Olinda, Pernambuco (Brazil), in September 2020. The action was previously announced and involved 20 walk-in users; proper pandemic safety precautions were followed. Screening was performed using rapid tests for syphilis, HIV, hepatitis B, and hepatitis C. Participants also received information about STIs and the importance of early investigation; most of them were female, and 15% tested positive for syphilis. None of them had been tested previously. Only 15% of the participants were aware of STI screening tests and acknowledged their importance. Immediate care for individuals with STIs provides a curative strategy, aims to interrupt the chain of transmission, and prevents other STIs and their associated complications.

Keywords: STI; HIV; syphilis; hepatitis; prevention; diagnosis

RESUMO

A Atenção Primária à Saúde é considerada a porta de entrada preferencial do usuário no Sistema Único de Saúde (SUS). A partir dela, é possível garantir o diagnóstico e o tratamento precoces de doenças como as infecções sexualmente transmissíveis (IST), hepatites B e C, HIV e sífilis. Este relato descreve a experiência de uma ação realizada com usuários em uma Unidade Básica de Saúde sobre IST, visando melhorar a adesão da população ao cuidado com IST e minimizar seus riscos. Trata-se de um estudo descritivo do tipo relato de experiência desenvolvido durante as atividades práticas dos estudantes da graduação de medicina na UBS de Jardim Brasil V, em Olinda, Pernambuco, em setembro de 2020. A ação contou com 20 usuários da UBS de demanda espontânea, após sua divulgação prévia, e foram seguidos os cuidados em tempos de pandemia. Foi realizada triagem com testes rápidos para sífilis, HIV, hepatites B e C, e os participantes receberam informações sobre as IST e a importância da investigação precoce. A maioria era do sexo feminino, 15% testaram positivo (sífilis). Nenhum deles havia realizado esses testes antes. Apenas 15% dos voluntários tinham conhecimento dos testes de triagem das IST e compreendiam a importância de sua realização. O atendimento imediato de uma pessoa com IST não é apenas uma estratégia curativa, mas também visa à interrupção da cadeia de transmissão, bem como à prevenção de outras IST e complicações decorrentes delas.

Palavras-chave: IST; HIV; Sífilis; Hepatite; Prevenção; Diagnóstico

INTRODUCTION

Primary health care is the preferred entry point for users of the Brazilian Unified Health System (SUS), playing a crucial role in ensuring access to healthcare services for the population within its coverage area.1

Sexually transmitted infections (STIs) are a public health concern. They are among the most common communicable diseases, affecting the health and lives of people worldwide.[2] In May 2016, the World Health Assembly adopted the 2016–2021 Global Health Sector Strategy on STI,[3] which includes the expansion of evidence-based interventions and services to control these infections and reduce their public health impact by 2030.

In 2019, the Brazilian Notifiable Diseases Information System reported 152,915 cases of acquired syphilis, an easily detectable systemic disease, with a simple, low-cost, and 100% effective treatment.[2] The system also recorded 41,909 new cases of HIV infection and 37,308 AIDS cases.4 Most HIV infections in Brazil were reported among individuals aged 20 to 34 years (52.7%). Between 1999 and 2019, 673,389 confirmed viral hepatitis cases were reported.[5]

Ideally, 100% of primary health care teams should be trained in counseling and rapid testing (RT) for HIV, syphilis, and hepatitis B and C. The RT was implemented in Brazil in 2011 and plays a crucial role in the fight against STI, as it could facilitate the early diagnosis of people living with these infections[1]. Moreover, determining serological status encourages behavioral changes in individuals. Following a positive diagnosis, adherence to treatment must occur to improve quality of life and even lead to a cure in cases of syphilis.[6,7]

EXPERIENCE REPORT

Students from the Faculdade de Medicina de Olinda conducted observations during their activities at the Jardim Brasil V Basic Health Unit (BHU) and identified a low demand for RT and STI prevention. These observations were part of the theoretical -practical program "Academy-Service-Community Integration" and the implementation of the Ministry of Health's 2020 STI Prevention Campaign.[8] Along with the Family Health Team, the students planned a brief intervention, which was announced 30 days in advance by the community health agents within the community.

On the scheduled day, the students and the Family Health Team welcomed the users and organized the appointments following distancing and anti-crowding guidelines in accordance with the COVID-19 pandemic public health recommendations. Twenty users participated in the action, with mean age of 56.7 years, being 90% females and 10% males. Initially, users were asked about their familiarity with STIs, their awareness of and the importance of RT, and any history of previous STI diagnosis. Then, they were informed about the testing procedures and invited to undergo testing; all users agreed to participate. Following the analysis, three users, including one couple, tested positive for syphilis. Seventeen users tested negative for syphilis, HIV, hepatitis B, and hepatitis C. Only three users were aware of the existence and importance of RT.

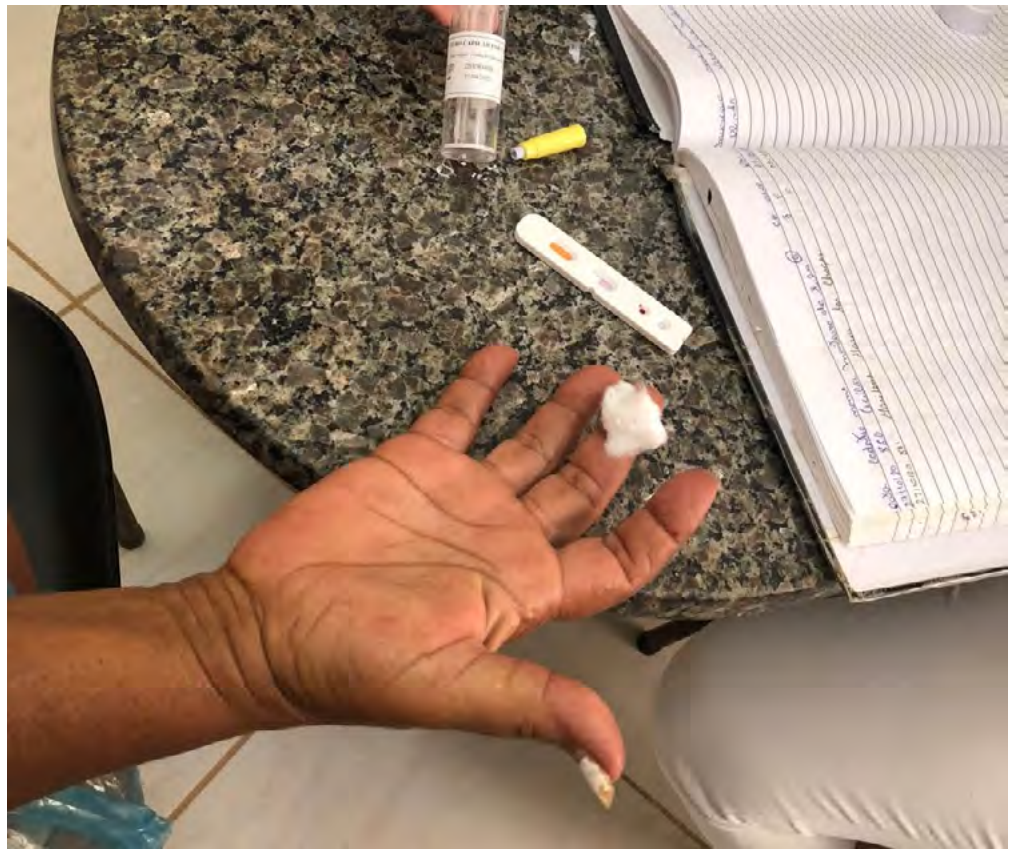

Figure 1. Record of a user performing rapid testing for sexually transmitted infections.

Last, the students warned the users on the importance of screening for STI diagnosis, prevention methods, modes of transmission, diagnostic processes (Figure 2), and the availability of free treatment provided directly at the BHU by the SUS.

COMMENTARIES

Reflections must be performed regarding the distribution of health services, considering the conditions under which users can access care to ensure isonomy for individuals with similar needs.

Naturally, controlling the disease by identifying existing cases and providing treatment should contribute to breaking the transmission chain. This strategy strengthens the importance of understanding how services are organized, aiming to formulate regionally focused policies that consider local realities, respect the historical and cultural aspects of management processes, and promote the equitable development of the SUS.

Last, care, diagnosis, and treatment are provided free of charge in SUS healthcare services.[9] However, according to the World Health Organization, assessing the effectiveness of diagnosis and treatment requires the development of strategies that ensure the availability of RT supplies, confirm diagnoses, and initiate STI treatment. These strategies improve the quality of life of individuals and interrupt the transmission chain of these infections.

Figure 2. Poster about syphilis presented at the action.

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RISK ASSESSMENT OF DIABETIC FOOT IN A BASIC HEALTH UNIT

AVALIAÇÃO DE RISCO DO PÉ DIABÉTICO EM UMA UNIDADE BÁSICA DE SAÚDE

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ABSTRACT

According to the United Nations, 70% of amputations performed in Brazil are due to diabetes mellitus (DM). Patients with poorly controlled or untreated DM experience increased rates of hospitalization, cardiovascular and cerebrovascular events, blindness, renal failure, and non-traumatic lower limb amputation. Experience report: Between May and June 2018, undergraduate medical students conducted activities to assess and care for the diabetic foot among patients at the Jardim Fragoso I basic health unit (BHU) in Olinda, Pernambuco, Brazil. Twenty-one patients with early-stage DM participated in these activities. Group discussions were held to provide guidance and education regarding diabetic foot care, followed by an assessment using forms for neuropathic pain, loss of protective sensation, and peripheral arterial disease. The most significant finding identified was the reduction of plantar protective sensation. Conclusion: This experience highlights the need to implement secondary prevention practices in BHU for patients with DM, including risk assessment for ulceration. The BHU services impact significantly on prognosis and reducing complications related to chronic diseases, as they coordinate care, organize the health network, and are entry point to the unified health system (SUS).

Keywords: Diabetic foot; Primary healthcare; Diabetes mellitus

RESUMO

De acordo com a Organização das Nações Unidas, 70% das amputações realizadas no Brasil são decorrentes do Diabetes Mellitus (DM). Há evidências de que indivíduos com DM mal controlado ou não tratado desenvolvem consequências como aumento do número de hospitalizações, aumento de eventos cardiovasculares e cerebrovasculares, cegueira, insuficiência renal e amputação não traumática do membro inferior. Relato de experiência: No período de maio a junho de 2018, estudantes da graduação de medicina realizaram algumas atividades para avaliar e cuidar do pé diabético de pacientes da Unidade Básica de Saúde (UBS) de Jardim Fragoso I, localizada no município de Olinda, Pernambuco. Participaram das atividades 21 pacientes que apresentavam o diagnóstico precoce de DM. Foram realizadas rodas de conversa sobre orientações e cuidados com o pé diabético; seguida de uma avaliação empregando o formulário de Avaliação e Rastreamento de Dor Neuropática, Perda da Sensibilidade Protetora e Doença Arterial Periférica para Atenção Primária em Saúde. A alteração mais significativa identificada neste estudo foi a redução da sensibilidade protetora plantar. Conclusão: A partir dessa experiência, identifica-se a necessidade de realizar, nas UBSs, práticas de prevenção secundária voltadas para pacientes diagnosticados com DM, incluindo o rastreamento do risco de ulceração. Por ser coordenadora do cuidado, ordenadora da Rede de Atenção à Saúde e porta de entrada do Sistema Único de Saúde, o serviço das UBSs gera impactos relevantes na melhoria do prognóstico e redução de complicações referente às doenças crônicas.

Palavras-chaves: Pé Diabético; Atenção básica; Diabetes Mellitus

INTRODUCTION

Diabetes mellitus (DM) are metabolic disorders of diverse etiologies, characterized by hyperglycemia from deficient insulin secretion by pancreatic beta cells, peripheral insulin resistance, or both1. The World Health Organization (WHO) estimates hyperglycemia as the third most important risk factor for premature mortality, behind high blood pressure and tobacco use. Thus, DM impacts economy and healthcare systems[2].

DM is preventable, controllable, and can be diagnosed in the early stages. Well-controlled glycemia can mitigate patient harm, allowing for non -pharmacological measures, including physical activity and adequate diet. Furthermore, ensuring the correct use of pharmacological interventions by patients with DM is important as they are responsible for their prognosis[3].

In Brazil, the Ministry of Health created numerous programs to control the most impactful diseases in the population[4]. For example, the National Program for Hypertension and Diabetes Mellitus (Hiperdia) reoriented pharmaceutical care by providing continuous and free access to medication, along with monitoring of patients conditions[5].

According to the United Nations (UN), 70% of amputations performed in Brazil are consequences of DM, representing approximately 55,000 procedures annually. Globally, the situation is more alarming: every minute, three patients undergo an amputation due to DM complications[6]. Considering the Brazilian context and quality of life of patients with DM, improving lower limb assessment and guidance on prevention and care emerged to minimize the harm resulting from uncontrolled hyperglycemia[7].

DM management involves many factors that should be addressed within primary healthcare, including patient awareness of the severity of the disease and secondary prevention practices, such as early diagnosis and appropriate treatment. In this context, glycemic control may substantially reduce the risk of DM complications[8,9,10].

EXPERIENCE REPORT

Based on the experience at the basic health unit (BHU) Jardim Fragoso I, a group of students identified that the family health team was organized into seven micro-areas and provided care for 187 patients with DM. Listening to the difficulties reported by patients regarding treatment and disease control revealed a demand for medical appointments to address symptoms and laboratory test abnormalities.

The activities conducted by the medical students from the Faculdade de Medicina de Olinda began with dialogues with patients who were questioned about complaints and challenges, along with active searches with community health agents (CHA). Students accompanied many routine activities, including home visits conducted by CHA, where they met and exchanged information with patients with DM. Through active listening, a few reasons were identified for the lack of participation in the Hiperdia program, the most common being scheduling conflicts with work hours and the unavailability of medications in primary healthcare units.

During the visits, patients were questioned about lifestyle habits and difficulties accessing medications at the BHU. A stronger relationship was established among students, patients, and their families by dialoguing and exchanging information. On these occasions, patients were also invited to participate in the action day at the BHU.

Patients arrived on a walk-in basis and were welcomed by the students and the multidisciplinary team of the BHU. The activities began with a group discussion, facilitating the exchange of experiences and helping to clarify any doubts. Subsequently, a banner was displayed with guidance on diabetic foot care, addressing risk factors and necessary precautions. In primary healthcare units, patients completed the assessment forms for neuropathic pain, loss of protective sensation, and peripheral arterial disease. After that, the assessment and screening forms for neuropathic pain, loss of protective sensation, and peripheral arterial disease for primary healthcare were completed. The foot-washing activity was then initiated, along with the assessment form recommended by the Ministry of Health, specifically focused on diabetic foot.

The foot-washing activity fostered interpersonal relationships between students and patients, highlighting the importance of providing appropriate healthcare. Students took this opportunity to emphasize the potential issues affecting patients feet and to provide guidance on necessary care.

Last, the students made a mold of the foot of each patient, which was later compared with their footwear. The objective was to demonstrate that properly fitting shoes should match the dimensions of the mold to avoid risks of compression, injury, or reduced sensitivity. After the comparison, the mold was given to the patients to be used as a reference when selecting appropriate shoes, preventing fissures and wounds. Properly shaped footwear is essential for patient comfort and well-being, helping pre-

vent future complications.

From this experience, contributions of the activities conducted to the self-care routines of patients and their relationship with disease management were identified. Studies showed the importance of primary healthcare in health education practices and the prevention of complications, considering its role in providing comprehensive and longitudinal care to patients with DM within the health network[11,12]. However, patients often face challenges due to social vulnerabilities. Access to adequate diet, treated water, and appropriate housing influences the health-disease process and the occurrence of health complications, which may delay rehabilitation and wound healing. For this reason, the student group prioritized dialogue with patients to better understand their realities.

CONCLUSION

This experience report demonstrated the importance of knowledge sharing with the population using a horizontal exchange, supported by guidance and illustrative materials. The information exchange established during the group discussions was essential for understanding the profiles of patients, clinical practices, and preventive measures related to DM. Assessments demonstrated that complications arising from DM treatment were not solely due to inadequate medication adjustments but to a significant gap between patients and the BHU. Some complications are detected only after they have worsened, hindering treatment. In summary, the activities were important to develop individualized management strategies and care protocols for the patients. The experience also reinforced the importance of active case finding and dynamic health education for other healthcare professionals, as these can raise awareness, support diagnosis, and strengthen ties with the community, since the patient is an active part of the treatment. Therefore, based on collective effort, a multiprofessional approach may enhance the effectiveness of health guidance. The results of this study support actions of various healthcare professionals in establishing appropriate protocols for the prevention of injuries that contribute to the morbidity of diabetic foot ulcers, contributing to the reduction of mortality, hospitalizations, and amputations caused by this highly prevalent chronic disease.

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CORDEL LITERATURE AS A TOOL FOR INCLUSION IN THE IMMUNIZATION PROCESS: AN EXPERIENCE REPORT

LITERATURA DE CORDEL COMO FERRAMENTA DE INCLUSÃO NO PROCESSO DE IMUNIZAÇÃO: RELATO DE EXPERIÊNCIA

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ABSTRACT

This study aimed to describe the initiative Literatura de cordel como ferramenta de inclusão no processo de imunização (Cordel Literature as a Tool in the Vaccination Process) conducted at the basic health unit (BHU) Rio Doce V. This study emphasized the importance of vaccination in preventing diseases and reducing mortality, using literature as a creative and informal way to disseminate information. This knowledge is likely to be reproduced in other scenarios, respecting popular culture. This study was developed at the BHU with healthcare workers, internship preceptors, and the local community. Initially, a draft was made outlining the content to be presented, the logistics for sharing information with the community, and how the material would be best absorbed, considering that the primary target audience was families and children attending the BHU. An adhesive panel was created to present that a vaccinated family is protected against diseases, framed within the Northeastern cultural context. Both the local community and the healthcare workers were significantly engaged with the study, as evidenced by reports of BHU workers. The present study aimed to promote health and prevention in the community and implement strategies to educate the local community with cultural, clear, and accessible content. This study was conducted out of a commitment to improving the community and contributing to strengthening the Unified Health System (SUS).

Keywords: Disease prevention; Health promotion; Medicine in the literature; Public health; Vaccines; Vaccine coverage

RESUMO

O objetivo foi descrever a ação "literatura de cordel como ferramenta no processo de imunização", realizada na Unidade Básica de Saúde (UBS) Rio Doce V. A atividade visou enfatizar a importância da vacinação na prevenção de doenças e na diminuição da mortalidade, utilizando a literatura de cordel para propagar a informação, baseando-se em linguagem informal e criativa. Espera-se que a experiência possa ser reproduzida em outros cenários, respeitando a cultura da região. O projeto foi desenvolvido na UBS Rio Doce V e contou com a participação dos funcionários, do preceptor do campo de estágio e da comunidade local. A priori, foi realizado um esboço do que seria apresentado na UBS em questão, da logística do compartilhamento da informação para a comunidade e de como o conteúdo seria absorvido, visto que o público principal era composto pelas famílias e pelas crianças da unidade. Com o cordel produzido, foi criado um painel adesivo que fazia alusão à ideia de que uma família vacinada está protegida contra doenças. Observou-se que a população e a equipe de saúde tiveram adesão significativa ao projeto, como podemos demonstrar a partir dos relatos da equipe profissional atuante na UBS. O presente estudo almejou desempenhar a função de promoção e prevenção da saúde na comunidade e implantar estratégias voltadas para a instrução da comunidade local com conteúdos culturais, claros e acessíveis. Estamos convictos de que desempenhamos essa atividade movidos pelo comprometimento com a melhoria da comunidade, contribuindo para a construção e o fortalecimento do Sistema Único de Saúde.

Palavras-chave: Prevenção de doenças; Promoção de saúde; Medicina na literatura; Saúde pública; Vacinas; Cobertura vacinal

INTRODUCTION

For many years, vaccination played a key role in controlling the spread of infections and eradicating diseases in the community. Due to its proven effectiveness in promoting public health[1], many investments are made in vaccination programs.

Despite maintaining high coverage rates for a long time and being internationally acclaimed for vaccination programs, Brazil has seen a recent decline in the performance and resurgence of vaccine-preventable diseases.

Based on data from the Ministry of Health, the Institute of Health Policy Studies (IEPS) revealed that at least half of Brazilian municipalities failed to meet the target of the National Immunization Program (NIP). Between 2015 and 2019, coverage rates for all vaccines declined significantly, dropping from levels above the 90% or 95% targets in 2015 to well below the recommended thresholds by 2019[2].

Among the strategies used for socio-educational approaches to vaccination are discussion groups, lectures, seminars, artistic activities, and literature. Artistic methods are one of the main strategies for promoting health-related knowledge in vulnerable populations. Literature can foster creative capacity, expand the understanding of human needs, and play a historically significant role in health-related studies, facilitating interactions between culture and sociolinguistic analysis.[4,5]

In this context, a strategy was developed to educate the local community, promote health, and prevent diseases. Clear and accessible content that emphasized the importance of vaccination and updated the vaccine records were used. The chosen tool was cordel literature, a traditional poetic form employed to enhance understanding and increase adherence to vaccination.

In mass communication campaigns, media resources are used to transmit the intended message effectively. The incorporation of regional elements, represented by the cordel literature, creates an identity-based connection important for the reception and retention of the message.[6,7]

Cordel literature is a popular rhymed poetry from northeastern Brazil, the birthplace of distinguished representatives of this genre.[8,9] It is traditionally printed in small booklets and often displayed hanging from strings, which is typically represented by woodcut illustrations.

Due to the cultural significance, cordel literature was chosen to create a representative mirror in which readers can see themselves reflected in the message through language, imagery, and cultural references evoking shared memories and identity.

Nowadays, technological approaches have gained increasing importance in healthcare, a topic that is being widely debated and integrated into society.[8]

This study aimed to describe the initiative Literatura de cordel como ferramenta de inclusão no processo de imunização (Cordel Literature as a Tool in the Vaccination Process), conducted at the basic health unit (BHU) Rio Doce V, emphasizing the role of vaccination in preventing disease and reducing mortality. In the initiative, popular literature was used to spread information through an informal and creative language.

METHODS AND RESULTS

Aiming to highlight the benefits of immunization, the study was designed with cordel literature to encourage vaccination.

The study was developed at the BHU Rio Doce V with healthcare workers, internship preceptors, and the local community. Initially, a draft outlined the content to be presented at the BHU, the logistics for sharing information, and how the material would be best absorbed, considering that the targeted audience was families and children attending the BHU.

To ensure maximum integration with the cultural language, a cordel was created addressing vaccination campaigns promoted by the NIP, which was later distributed to the local community (Figure 1).

In addition, an adhesive panel was created to present the idea that a vaccinated family is protected against diseases within the northeastern cultural context (Figure 2). A display board made of burlap and sisal twine was also assembled with printed copies, allowing easy access for community members (Figure 2). All materials used were designed and provided by the healthcare team.

Figure 1. Cordel booklets prepared for distribution at the BHU Rio Doce V.

Figure 2. Adhesive panel and string display made of burlap and sisal twine, created for the initiative.

To enhance the impact of the study, the BHU was decorated with materials evoking northeastern culture (Figure 3). Individualized explanations were also provided, fostering unique interactions with each patient and aiming to emphasize the importance of keeping vaccination records up to date. The initiative was directed toward the entire community present at the BHU, all of whom received the cordel related to the theme.

Figure 3. Decoration of the BHU Rio Doce V with materials referencing northeastern culture, created by the healthcare team.

Following the planning phase and the definition of objectives, students set out to put theory into practice. The goal was to generate a positive impact within the new context of the epidemiological surveillance system, increasing vaccination rates.

Both the local community and healthcare workers showed significant engagement with the study, evidenced by reports from workers at the BHU.

In the waiting room, patients were curious and appreciated having access to a special piece of literature to read and take home to perpetuate such an important message.

The healthcare team was enthusiastic about the creative approach used to capture the attention of the community and welcomed the space to inform the population regarding routine vaccination.

The results were positive and highly relevant for the entire community. The northeastern culture as a central element caught the attention of the community and healthcare workers, facilitating the dissemination of information and education. Students involved in the initiative expressed deep gratitude and fulfillment upon witnessing the practical effects of the theoretical proposition of this study.

DISCUSSION AND CONCLUSION

Working in primary healthcare proved to be a direct, fast, and accessible way of interacting with the community. During the development of the study, the aim was to establish a long-term initiative that would contribute to the environment of the BHU. The decorations aimed to highlight the northeastern culture, which was achieved using rustic elements. With dynamic presentations, the cordel was distributed to the community during the vaccination day organized by the BHU. The cordel contained essential information from the NIP and was written in accessible language to ensure the entire community understood it.

Due to the illustrations, the cordel also attracted the attention of children, who were the primary target audience.

To extend the duration of the study, a display board featuring the cordel was incorporated into the decoration and regularly restored with additional copies to ensure broader reach and effectiveness for the population.

The study was treated as a primary commitment, along with the regular participation and frequent replacement of cordel booklets on the display board. Accordingly, the need for continued work with the BHU and the community was acknowledged.

During this period, limitations and qualities of the daily activities in the BHU were observed. This study aimed to improve the community and contribute to the development and strengthening of the Unified Health System (SUS).

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"IN SEARCH OF MEMORY: THE EMERGENCE OF A NEW SCIENCE OF THE MIND"

Autores: Fernando Augusto Pacífico[1], George Gláucio Carneiro Leão de Guimarães Filho[2], Emily de Carvalho Batista[2]

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Eric Kandel, born in Vienna, Austria, and a naturalized American, works at the Center for Neurobiology at Columbia University in New York. His research earned him the 2000 Nobel Prize for Medicine, also awarded to Arvid Carlsson and Paul Greengard for their work on signal transmission in the nervous system. These scientists made crucial discoveries about slow synaptic transmission, a vital type of signal transmission between different nerve cells. This work was fundamental for understanding the normal functions of the brain and the conditions of disturbances in signal transmission that may induce physical or neurological diseases.

His scientific career includes publishing the book "Principles of Neuroscience," which serves as a reference in his field of study. In his book about the brain aimed at the general public, "In Search of Memory: The Emergence of a New Science of the Mind", Kendel mixes autobiography with reports on the genesis of a new way of understanding the brain, a conjunction between behavioral psychology, cognitive psychology, neuroscience, and molecular biology. His research addressed the molecular mechanisms of memory storage in a marine mollusk (Aplysia) and mice.

In this book, the author weaves together two stories: an intellectual narrative of the extraordinary progress made in the last fifty years in the study of the mind and the story of his life and scientific career over five decades. This second narrative reconstructs how his childhood experiences in Vienna gave rise to a fascination with memory, which led him first to the study of history and psychoanalysis, then to the biology of the brain, and finally to the cellular and molecular processes of memory. "In Search of Memory" is, in the words of the author and neuroscientist, "an account of how my personal effort to understand memory intertwined with this grand scientific project — the attempt to understand the mind in cellular and molecular terms".

Furthermore, Kandel problematizes how understanding the human mind in biological terms has become the primary challenge of 21st-century science, stating, "There is a consensus in the scientific community that the biology of the mind will be for the 21st century what the biology of the gene was for the 20th century." He also emphasizes that science seeks to understand the nature of biological perception, learning, memory, thought, and consciousness, as well as the limits of free will.

From the dark events experienced in Broken Glass (1938), which led his Jewish family to leave Vienna for the United States, several pivotal questions emerged that have led to some of the most significant discoveries in neuroscience.

According to Kandel, it was fortunate for neuroscience around the world that England, Australia, New Zealand, and the United States opened their doors to notable synapse researchers who were banned from Austria and Germany, including Loewi, Feldberg, and Katz. For him, this evokes memories of a story told about Sigmund Freud, when the famous father of psychoanalysis arrived in England and was taken to the beautiful house on the outskirts of London where he would live. Observing the tranquility and civility provided by that forced emigration, Freud was led to say, in a low voice, with typically Viennese irony: "Heil Hitler!".

In the United States, Eric Kandel discovered how the efficiency of synapses can be modified and that molecular mechanisms are part of this process. Using Aplysia as an experimental model, he demonstrated how changes in synaptic function are important to learning and memory. Protein phosphorylation at synapses plays an important role in generating a form of short-term memory. To develop long-term memory, a change in protein synthesis is also required, which can lead to changes in the shape and function of the synapse.

The fundamental mechanisms that Kandel revealed are also applicable to humans. It can be said that our memory is located in the synapses. With these discoveries, it is now possible to study, for example, how complex memory images are stored in the

nervous system and how memories of ancient events are recreated. Understanding these mechanisms will enable the development of new types of medication to enhance memory functions.

Regarding the direction of the new science of the mind in the future, with regard to the study of memory storage, the author ends his narrative by declaring the certainty that cellular and molecular approaches will continue to produce important information, but that, alone, they will not be able to elucidate the secrets of internal representations in neural circuits or interactions between circuits (the key steps that link cellular and molecular neuroscience to cognitive neuroscience).

AUTHOR GUIDELINES

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The Journal Annals of Olinda Medical School reflects the thinking and commitment to the production of knowledge based on the social responsibility that we assume as protagonists, and as part of the Institutional Development Project of the Faculdade de Medicina de Olinda (FMO). Aiming to strengthen the inseparability of teaching, research and extension, in addition to consolidating quality education, anchored in scientific bases and ethical values, the journal was created in light of an editorial line committed to a sustainable world and focused on medicine as a profession with a strong social and humanized component.

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All publications submitted to the Annals of Olinda Medical School must have followed the research ethics recommendations of the Declaration of Helsinki and the standards of Resolution no. 466/2012 (http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf http://conselho.saude.gov.br/resolucoes/2016/Reso510.pdf) of Brazilian National Health Council. Studies that analyze aggregated data without identify- ing participants, such as those available in offi- cial databases in the public domain are exempt from research ethics committee approval.

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Every manuscript received is analyzed for suitability to the scope of the journal, its contribution to knowledge advancement, its originality, the methodological rigor with which the study was conducted, and the adequacy of the conclusions in relation to the results presented. In addition, the formatting is evaluated according to the standards of the journal. If any inaccuracy is identified, the manuscript is returned to the corresponding author, indicating the necessary adjustment. Only manuscripts that meet all the criteria described in the "Author Guidelines" undergo peer review.

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Original article: a full paper of a clinical or experimental investigation with unpublished research results (limit of 3,400 words, seven authors, and 30 references).

Integrative, systematic review, and me- ta-analysis: they should address topics of in- terest in health. Narrative reviews will not be accepted. Authors must include the study mo- tivation in the Introduction. Summary and ab- stract must be formatted as a single paragraph in a block format with up to 250 words (limit of 3,400 words, seven authors, and 45 referenc- es).

Short Communication: short communication of original research results. In general, short communications are leaner analyses with a brief discussion of the results (summary and abstract must be formatted as a single paragraph in a block format with up to 120 words; the manuscript must be up to 1,000 words with Introduction, Methods, Results, and Discussion sections; up to two tables/figures can be included in up to three pages combined; references are limited to six).

Case reports: description of clinical cases of interest due to their rarity, presentation, innovative diagnosis, or treatment (summary and abstract must be formatted as a single paragraph in a block format with up to 120 words; the manuscript must be up to 2,000 words with Introduction, Case Report, and Discussion sections; up to two tables/ figures can be included in up to three pages combined; references are limited to fifteen; limit of seven authors).

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Critical review: restricted to a book or film in the medical field and related sciences. Argumentative manuscript in which the author describes and analyzes a social production aiming to influence his readers by recommending the work for its qualities or rejecting it for its flaws. It must be presented as follows: (1) presentation - summary of the work analyzed with both technical information and information about the book or film content; (2) analysis – interpretation and analysis of the work highlighting its main points, whether positive or negative, and the critical analysis from the author; (3) conclusion - opinion on the work, resuming the main points analyzed (up to 1000 words and two authors);

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Manuscripts are accepted in Portuguese or English and must have an abstract in the original language of the manuscript and English. Manuscripts in English must have an abstract in English and Portuguese.

Manuscripts must be sent in Word, dou- ble-spaced, and Arial font size 12. Do not use line breaks. Do not use force manual hyphenations. The full term must follow abbreviations cited for the first time in the document. Title and abstract must not contain abbreviations.

Title page

Title of the manuscript in Portuguese and English (up to 25 words for each title);

Author information (full name, email, ORCID, affiliation, city, state, and country — do not include title and position);

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Conflicts of interest, in accordance with the Resolution of the Federal Council of Medicine (CFM) no. 1595/2000, which prohibits the publication of works for advertisement purposes of medical products and equipment, available at https://sistemas.cfm.org.br/normas/visualizar/resolucoes/BR/2000/1595. Conflicts of interest must be presented as follows: “The author(s) (name them) received financial support from the private company (mention its name) to conduct this study”. If there are no conflicts of interest, the authors must declare: “The authors have no conflicts of interest to declare”.

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Number of the Certificate of Presentation for Ethical Assessment (CAAE) or number of Research Ethics Committee approval;

Authors contribution to the manuscript.

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Authors must include a minimum of four and a

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References

References must be numbered consecutively according to the first mention in the manuscript and using superscript Arabic numerals in accordance with Vancouver style (www.icmje.org). The reference list must follow the numerical order of the manuscript, ignoring the alphabetical order of authors. Journal titles must follow the Index Medicus/Medline. The name of the first six authors must appear, followed by the expression et al. when this number is exceeded. Whenever available, the Digital Object Identifier (DOI) must be provided (see examples below). Personal communications, unpublished or ongoing work, citations from books, thesis, and dissertations should be avoided. The accuracy of references is the responsibility of the authors.

EXAMPLES

Reference to a journal publication:

Ng OT, Marimuthu K, Koh V, Pang J, Linn KZ, Sun J, et al. SARS-CoV-2 seroprevalence and transmission risk factors among high-risk close contacts: a retrospective cohort study. Lancet Infect Dis. 2021 Mar; 21(3):333-343. doi: 10.1016/S1473-3099(20)30833-1

Jardim BC, Migowski A, Corrêa FM, Azevedo e Silva G. Covid-19 no Brasil em 2020: impacto nas mortes por câncer e doenças cardiovasculares. Rev Saude Publica. 2022; 56:22. https://doi.org/10.11606/s1518-8787.2022056004040.

Reference to a World Health Organization Report

World Health Organization. Clinical Care for Severe Acute Respiratory Infection—Toolkit—Update 2022. Genebra: World Health Organization; 2022.

Reference to electronic documents

Brasil. Casos de aids notificados no SINAN, declarados no SIM e registrados no SISCEL/SICLOM, segundo capital de residência por ano de diagnóstico. Brasil, 1980-2021 [Internet]. 2021 [acessado em 12 abr. 2022]. Available at: http://www2.aids.gov.br/cgi/deftohtm.exe?tabnet/br.def

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Contact Methods

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