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CASE REPORT

Diagnostic and therapeutic difficulties in the case of angiomatous polyps of the paranasal sinuses. Case presentation

Trudności diagnostyczne i terapeutyczne w przypadku polipów z rodzaju angiomatous zatok przynosowych. Prezentacja przypadku

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ABSTRACT:

Preface: angiomatous nasal type polyps (SAP – sinonasal angiomatous polyp) are benign lesions. The clinical and radiological picture of SAP may suggest other diseases of the nose and paranasal sinuses. Diagnostic imaging is based on computed tomography and magnetic resonance. SAP treatment involves their surgical removal.

A case report: he aim of the study is to present diagnostic and therapeutic difficulties in a 17-year-old female patient with an inflammatory polyposis of the angiomatous of the paranasal sinuses. The course of disease, diagnostic difficulties and its treatment are presented. No complications were observed during hospitalization and in the postoperative period.

Summary: SAP is one of the types of nasal polyps characterized in the histological picture of vascular proliferation with the presence of blood clots. Accurate diagnostic and histological diagnostics allow to determine the final diagnosis and differentiation of SAP with nasal and sinus hyperplasia.

KEYWORDS: polyp, angiomatous polyp, nose, paranasal sinuses

STRESZCZENIE:

Wstęp: polipy nosa z rodzaju angiomatous (SAP – sinonasal angiomatous polyp) są zmianami łagodnymi występującymi niezwykle rzadko. Obraz kliniczny i radiologiczny SAP może sugerować inne schorzenia nosa i zatok przynosowych. Diagnostyka obrazowa oparta jest na tomografii komputerowej i rezonansie magnetycznym. Leczenie SAP polega na ich chirurgicznym usunięciu.

Opis przypadku: celem pracy jest przedstawienie trudności diagnostycznych i terapeutycznych u 17-letniej pacjentki z polipem zapalnym z rodzaju angiomatous zatok przynosowych. Przedstawiono przebieg choroby, trudności diagnostyczne i leczenie. Okres pooperacyjny oraz hospitalizacji był niepowikłany.

Podsumowanie: SAP jest jednym z typów polipów nosa cechujących się w obrazie histologicznym proliferacją naczyń krwionośnych z obecnością w nich zakrzepów. Dokładna diagnostyka obrazowa i histologiczna pozwala na ustalenie ostatecznego rozpoznania i różnicowanie SAP z procesami rozrostowymi nosa i zatok.

SŁOWA KLUCZOWE: polip, polip rodzaju angiomatous, nos, zatoki przynosowe

INTRODUCTION

Sinonasal angiomatous polyp (SAP – sinonasal angiomatous polyp) are extremely rare benign lesions [1, 2]. They belong to one of the five types of histological polyps of the nose and paranasal sinuses, constituting only 4-5% [3]. The clinical picture of SAP depends on their original location, size and possible destruction of the surrounding bone structures. The two main symptoms of SAP are: impaired patency and nosebleeds. Diagnostic imaging is based on computed tomography and magnetic resonance. The clinical and radiological picture of SAP may suggest other diseases of the nose and paranasal sinuses, including malignant neoplasms [1, 4, 5]. The final diagnosis is based on histological examination of the excised tumor, although the correct initial suspicion of SAP before the procedure allows to qualify the patient for a less extensive surgery [4]. SAP treatment involves surgical removal.

This study aims to present diagnostic and therapeutic difficulties in a 17-year-old female patient with a sinonasal angiomatous polyp.

CASE REPORT

A 17-year-old female patient was admitted to the Otolaryngology Clinic due to nasal cavity tumor on the left side. The patient complained of periodic purulent-blood leaks from both nasal cavities with frequent upper respiratory tract infections persisting for about 1.5 years and impaired permeability of the nasal passage. A frontal tamponade was performed many times in the outpatient clinic due to bleeding. Bacteriological examination of nasal cavity swabs allowed to diagnose the presence of physiological flora. A sinus X-ray revealed a shadow arising from the maxillary sinus, which may correspond to acute inflammation. The patient was periodically treated with antibiotics, nasal steroids and nasal irrigation.

The general condition of the patient was good upon admission. Physical examination showed tumorous polypoid masses filling the entire nasal cavity on the left side with a small dislocation of the nasal septum to the opposite side. Beyond that, otolaryngologic examination showed no significant deviations from the standards. Eyeball motility and visual acuity correct. Negative meningism. Cervical lymph nodes nonpalpable. Preoperative computed tomography (CT) visualized a tumor filling the nasal cavity and the maxillary sinus on the left side. Presence of bone destruction of the walls of the maxillary sinus (medial, lateral and posterior). Destruction of the middle and lower nasal turbinate on the left side with complete shadowing in the left anterior sinus (Fig. 1). For more accurate assessment and exclusion of possible sinusoidal complications, craniofacial magnetic resonance imaging (MRI) was performed, revealing a non-homogeneous pathological mass in the left maxillary sinus, nasal cavity and partly in the anterior sinus with a total size of 37 × 30 × 60 mm with enhanced contrast. Intersecting band-like areas with high and low signal were shown - with the suggestion of a typical picture for "convoluted cerebriform pattern" characteristic for inverted papilloma. The lesion did not pass into the soft cheek tissue and into the eye socket (Fig. 2). The patient was qualified for endoscopic surgery (ESS).

A tumor filling the front ethmoids was discovered intraoperatively on the left side, destroying the lateral side of the nose, convex to the inside of the maxillary sinus. The tumor was completely removed in macroscopic evaluation together with the nasal turbinate. The maxillary sinus was widely opened; thick mucus and unchanged mucous membrane were found in the interior. Furthermore, posterior ethmoids were opened and cleaned from the overgrowing mucous membrane of the sinus. No pathologies were found within the remaining openings of the paranasal sinuses. Postoperative period without complications. Histological examination of surgical material revealed tumorous polypoid masses with numerous widened vascular spaces with present thrombosis. The stroma is dominated by glaucoma, amorphous, acidophilic amyloid-like material and chronic inflammatory infiltrates with numerous hemosiderophags and dispersed degenerated cells with pronounced pleomorphism and single figures of mitosis and immunophenotype: LMP-1 (-), CD30 (-), desmin (-), SMA (-/+). In addition, fragments of the respiratory mucosa with edema, chronic inflammatory infiltration and glandular hyperplasia were found in the material. The whole picture most probably seems to be an angiomatous nasal polyp lesion (Fig. 3 A, B, C). The patient was released on the third day after surgery in a good general and local condition. During three-year follow-up of the patient, no signs of recurrence were observed.

DISCUSSION

The angiomatous polyps (SAP) belongs to one of the five types of histological polyps that can occur in the nose and paranasal sinuses(edematous, glandular, fibrous, cystic, angiectatic) [3]. It should be noted that in the literature, SAP is a generic term; it covers disease entities, including such as: vascular granuloma, telangiectasias or organized hematoma, which display clinical, radiological, and histological similarity [6, 7]. The microscopic image is characterized by excessive vascular proliferation with the presence of clots and an accompanying image of destructive and degenerative lesions in the surroindings [8]. The literature describes a number of reasons that can lead to the formation of

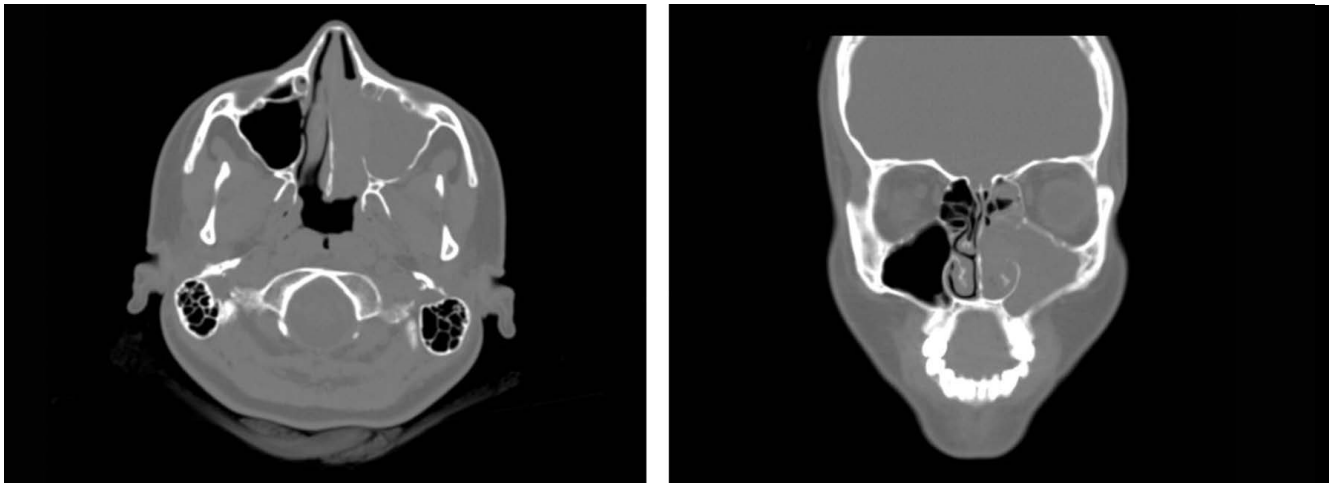

Fig. 1. Computed tomography - maxillary sinus, frontal sinus and ethmoidal tumor.

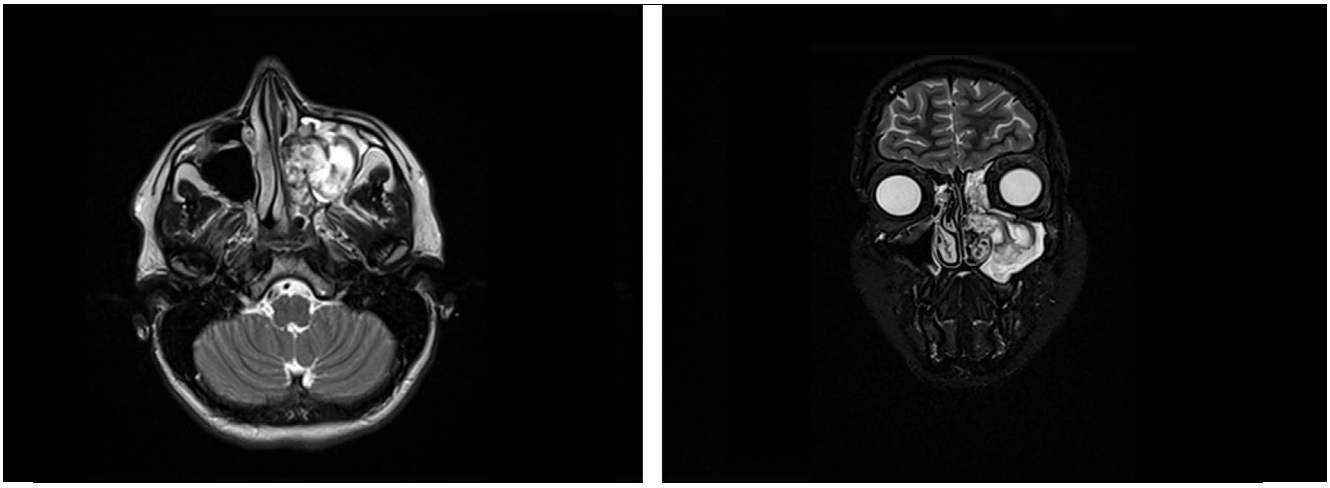

Fig. 2. Magnetic resonance imaging - maxillary sinus, frontal sinus and ethmoidal tumor.

SAP. One of them is the concept of histological transformation of a choroidal polyp. This polyposis, exiting from the maxillary sinus and spreading to the nasal cavity, is compressed by neighboring structures. Closure or disturbance of flow in the vessels of the polyp wall causes its edema and ischemia, and at a later stage, neovascularization, which may lead to the formation of SAP [7, 8, 9]. In the present case, pathogenesis seems to be analogous due to the destruction of the maxillary sinus walls visible in CT and spread of the lesion to the nasal cavity. The most common SAP location, as in the case of a choroidal polyp, is the maxillary sinus [4].

The age of patients with SAP, accompanying symptoms and their duration, just as in the case of our 17-year-old patient, are uncharacteristic. In the available literature, the age-specific prevalence range of SAP was from 11 to 81 years, with symptoms lasting from 2 weeks to 20 years [1, 3–8, 10]. It was more often described in men [4]. Mucocutaneous leaks persisting for over a year could suggest chronic inflammations of rhino and sinal mucosa, and accompanying bleeding could point to malignant lesions.

In our case, radiological diagnostics was based on CT and MR examination with the use of contrast media. In imaging, SAP should be differentiated with other nasal and paranasal sinus diseases (inflammatory lesions, mycosis, mucocele or inverted papillomas), including malignant neoplasms (the most common squamous cell carcinoma or rare melanoma) [10-14]. The literature describes many SAP imaging techniques, while the radiological image is uncharacteristic. As in our case, computed tomography showed destruction of the bony sinus walls, similar to those occurring in juvenile fibroma or inverted papilloma. [6, 7]. Administration of contrast in the course of CT treatment in patients may reveal an enlarged network of tumor vessels, which should be considered as one of the diagnostic

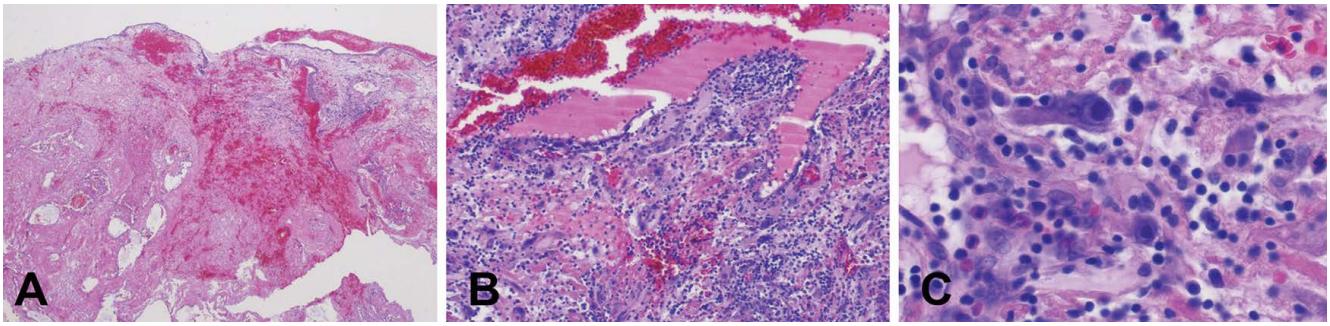

Fig. 3. (A, B, C). Histologic examination - angiomatous nasal polyp. A. Polypoid tissue with focal hemorrhagic necrosis and telangiectatic angiopathic canals. B,C. Larger magnification shows atypical pleomorphic cells located in the perivascular stroma.

guidelines [10]. Changwei et al. present an option of a two--phase contrast scanning of spiral CT in which the SAP image appears to be more characteristic. They presented a series of 12 SAP patients tested with this technique, in whom they showed the image of proliferation and neovascularization in polyp vessels at various stages of examination [15]. In patients with a CT scan that is not clear and suggestive of a malignancy, we perform magnetic resonance imaging. SAP in MR is quite characteristic, tumor image at T1 is characterized by a high, and in T2 a low signal, especially at tumor circumference [4]. In our patient, the radiologist described the characteristic features of inverted papilloma in the MR image in the form of the so-called "convoluted cerebriform pattern". The treatment of choice in these types of polyps is their surgical removal. The procedure is usually performed from an endoscopic approach. External access has limited use here.

SUMMARY

Angiomatous polyps are one of the histological types of nasal and paranasal sinuses which occur infrequently. Symptomatologically and radiologically, these polyps may resemble other diseases of the nose and paranasal sinuses, including malignant neoplasms. Diagnosis is based both on clinical examination and on imaging diagnostics, mainly computed tomography, which is used to assess the extent of excision. Treatment of this type of polyp is based on their removal from endoscopic access.

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