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Case Report

Solitary fibrous tumor of the nasal cavity and paranasal sinuses: A case report

Bogna Zielińska-Kaźmierska [a], *Joanna Grodecka* [b], *Adam Szyszkowski* [c,*]

[a] *Principal, Department of Cranio-Maxillofacial and Oncological Surgery, Medical University of Lodz, Lodz, Poland*
[b] *Department of Cranio-Maxillofacial and Oncological Surgery, Medical University of Lodz, Lodz, Poland*
[c] *Resident, Department of Cranio-Maxillofacial and Oncological Surgery, Medical University of Lodz, Lodz, Poland*

ARTICLE INFO

Article history:
Received 22 February 2015
Accepted 9 April 2015
Available online 29 June 2015

Keywords:
Solitary fibrous tumor
Nasal cavity
Paranasal sinuses

ABSTRACT

Solitary Fibrous Tumors (SFT) are rare neoplasms first described in 1931 by Klemperer and Rabin. SFT's have mesenchymal rather than mesothelial origin. They arise mostly from serous membranes, although they also originate in other regions such as: the urogenital system, mediastinal space, lungs, vulva, orbit, thyroid, nasopharyngeal region, larynx, salivary glands. SFT of the nasal cavity and paranasal sinuses are extremely rare. To the year 2014 only 33 cases were reported in English literature.

Patients and methods: We present a case of 58-year-old man with solitary fibrous tumor localized in the right nasal cavity. The patient presented with an 18-month history of epistaxis and right epiphora. He also reported unilateral right-sided nasal obstruction over the last 6 months.

Results: CT disclosed a large, homogeneous mass in the nasal cavity infiltrating and destroying nasal septum, turbinates, occupying right maxillary sinus, right ethmoid, extending to the right frontal sinus and right orbit. The infiltration of the right oculus was suspected. Biopsy revealed fibrocytes and histiocytes proliferation with rich vascularization. There was no evidence of histological malignancy. Pathology results were significant for SFT.

Conclusion: The tumor was excised by means of right lateral rhinotomy. Neither the extension to the right maxillary sinus nor the orbital floor infiltration was seen intraoperatively despite the fact, that it was observed in computed tomography before the surgery. The patient had a 5.5-year follow up after surgery, radiological examination showed no recurrence.

* *Corresponding author*. Department of Cranio-Maxillofacial and Oncological Surgery, Medical University of Lodz, ul. Kopcińskiego 22, 90-152 Łódź, Poland. Tel.: +48 606 910 669.
E-mail address: a_szyszkowski@tlen.pl (A. Szyszkowski).
http://dx.doi.org/10.1016/j.jobcr.2015.04.001

1. Introduction

Solitary Fibrous Tumors (SFT) are rare neoplasms first described in 1931 by Klemperer and Rabin.[1] Authors presented five cases of primary pleural localization. SFT's have mesenchymal rather than mesothelial origin. They arise mostly from serous membranes, although they also originate in other regions such as: the urogenital system, mediastinal space, lungs, vulva, orbit, thyroid, nasopharyngeal region,[2] larynx, salivary glands.[3] SFT of the nasal cavity and paranasal sinuses are extremely rare. To the year 2014 only 33 cases were reported in English literature. SFT most commonly occurs in adults between the fourth and eighth decades. Pleural cases are malignant in 13–23%, whereas extrapleural are mostly benign. The average diameter in the moment of diagnosis is 3–5 cm.

Initially the tumor presents as an asymptomatic, well-circumscribed soft tissue mass. After that, due to the tumor growth, such symptoms occur: nasal obstruction, epistaxis, hyposmia, rhinorrhoea, sinusitis, headaches, facial pain, exophthalmos, resorption of the surrounding bone structures.

The diagnosis of SFT is based on the clinical examination, magnetic resonance imaging (MRI), computed tomography and histologic analysis with immunohistochemistry. SFT are treated by complete surgical excision.[4]

Almost all tumors exhibit immunoreactivity for CD 34.[5] Other common markers include CD 99, Bcl-2 protein and vimentin. Vimentin is considered to be non-specific, because it is expressed by most mesenchymal and many epithelial neoplasms. SFT's do not show immunoreactivity for keratin, epithelial membrane antigen, S-100 protein, glial fibrillary acidic protein and carcinoembryonic antigen.[6]

2. Case report

A 58-year-old man presented with an 18-month history of epistaxis and right epiphora. He also reported unilateral right-sided nasal obstruction over the last 6 months. The patient was otherwise healthy and in good general condition. ENT examination revealed a smooth white mass in the right nasal cavity which compressed and deviated the nasal septum. Ophthalmological examination showed low grade retinal atherosclerotic angiopathy. The laboratory findings were normal. The Waters view X-ray revealed radiopaque lesion in the right maxillary sinus. Subsequently performed computed tomography disclosed a large, homogeneous mass in the nasal cavity infiltrating and destroying nasal septum, turbinates, occupying right maxillary sinus, right ethmoid, extending to the right frontal sinus and right orbit. The infiltration of the right oculus was suspected (Fig. 1). Biopsy revealed fibrocytes and histiocytes proliferation with rich vascularization. There was no evidence of histological malignancy. Pathology results were significant for SFT. During the biopsy a massive bleeding occurred, which was treated by an electrocoagulation.

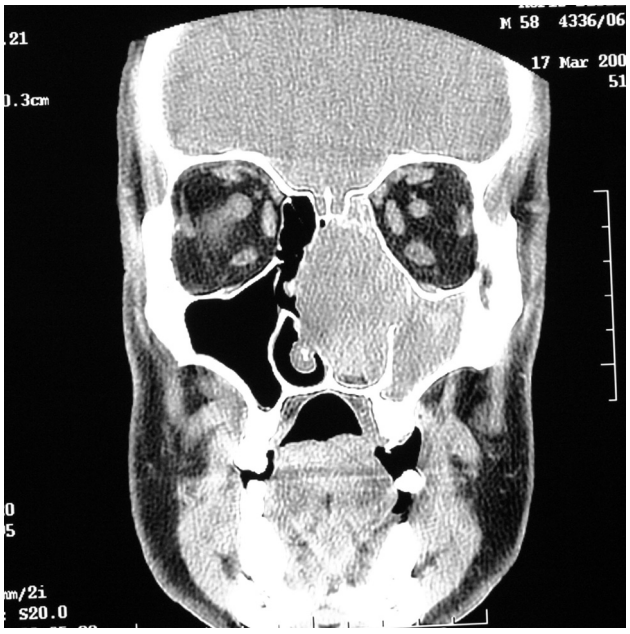

Fig. 1 – Coronal CT scan showing a mass in the nasal cavity, maxillary sinus, ethmoid, extending to the frontal sinus and orbit on the right side. The scan is inverted.

After procedures described above the patient was referred to the Cranio-Maxillofacial Surgery Ward. Once again he was thoroughly examined and the excision of the tumor under a general anesthesia was performed. The patient underwent the right lateral rhinotomy. During a surgery the tumor occupying nasal cavity, disfiguring nasal septum into left side was exposed. Neither the extension to the right maxillary sinus nor the orbital floor infiltration was seen. Because of the frontal sinus wall erosion the right frontal sinus drainage was carried out. A 5.5 × 4 × 3 cm tumor was excised en-block. Although no excessive bleeding was observed, temporary nasal packing was placed for 48 h. The postoperative period was uneventful, the frontal sinus drainage was removed after 48 h. The patient had a 5.5-year follow up after surgery. Radiological examination showed no recurrence. Pathological evaluation revealed patterns consistent with SFT. Immunohistochemical studies were strongly positive for CD 34 and negative for desmin and epithelial membrane antigen. Smooth-muscle actin was present in blood vessels walls, whereas S-100 protein was present in a small number of cells.

3. Discussion

SFTs are rare neoplasms that mostly occur as pleural or serosal tumors.[1] Their origin is discussed, they are said to grow from mesenchymal rather than the mesothelial tissue. This explains a wide variety of possible sites of occurrence. Although less common than in first described site, they can be found in larynx, hypolarynx, parapharyngeal space, tongue,