

# Cavernous Hemangioma of Maxillary Sinus

Sonia Seth, Kulbir Kaur, Vaneeta Bhardwar

## ABSTRACT

Cavernous hemangiomas are slow growing and tend to be locally destructive secondary to a pressure effect. Despite the high incidence of head and neck hemangiomas, those located in the sinonasal region are rare and those originating in the sinus mucosa are extremely rare. We present here a case report of cavernous hemangioma of the sinonasal region presenting as nasal mass with epistaxis in a 36-year-old male with CT diagnosis of antrochoanal polyp.

**Keywords:** Cavernous hemangioma, Nasal mass, Vascular tumor.

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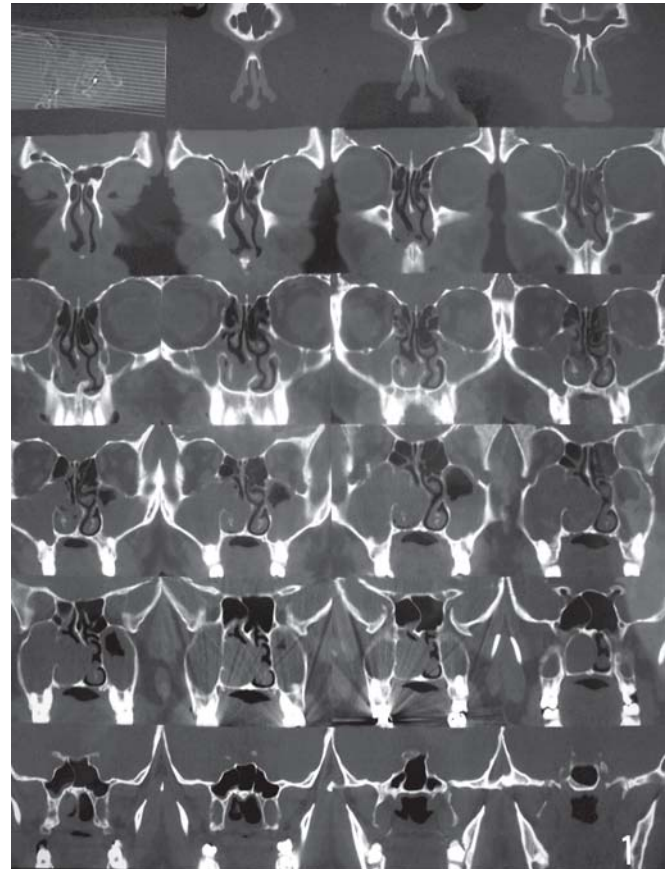
**Conflict of interest:** None declared

## INTRODUCTION

Hemangiomas are benign vascular tumors characterized by rapid vascular proliferation. Over half of all hemangiomas are found in head and neck region and can originate in the skin, mucosae and deep structures, such as bones, muscles and glands.<sup>1</sup> Cavernous hemangiomas are slow growing and tend to be locally destructive, secondary to a pressure effect. Despite the high incidence of head and neck hemangiomas, those located in the sinonasal region are rare and those originating in the sinus mucosa are extremely rare.<sup>2</sup>

## CASE REPORT

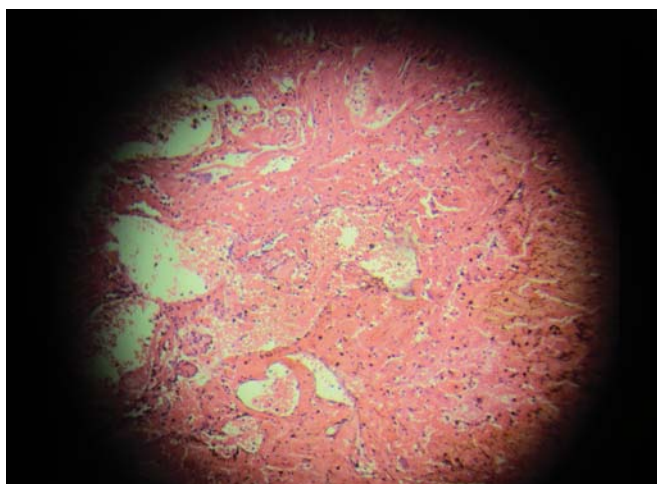
A 36-year-old male KS, presented in Ear, Nose and Throat Outpatient Department of PIMS (Medical College), Jalandhar, with chief complaints of nasal obstruction and epistaxis for the past 3 years. He took treatment from local practitioners and physicians for the diagnosis of sinusitis. But for the past few months, there were recurrent attacks of epistaxis. Diagnostic nasal endoscopy was already done somewhere reporting a polypoidal mass arising from right maxillary antrum and extending into the choana. On anterior rhinoscopic examination, a pinkish polypoidal mass was seen in right nasal cavity with few blood clots. Posterior rhinoscopy showed a reddish lobular mass. Angiofibroma was ruled out because of the age of the patient because it is seen in adolescent males and epistaxis is massive. CT scan of PNS coronal section showed a polypoidal mass arising from the right maxillary antrum extending into the nasal cavity and choana (Fig. 1). There was no bony erosion seen.



**Fig. 1:** CT scan of PNS-coronal section showing extent of sinonasal mass

Walls of the maxilla were intact. Routine blood investigations, such as hemoglobin, bleeding time, clotting time, urine complete examination, random blood sugar, blood urea, serum creatinine, ECG, X-ray chest PA view, were done and the patient was anesthetically fit. Under general anesthesia, the mass was removed endoscopically from the right maxillary antrum, nasal cavity and choana. Middle meatus opening was widened. Hemostasis was achieved with bilateral ointment soaked sofra tulle nasal packs. The anterior nasal packing was removed after 48 hours. The postoperative period was uneventful. The patient was given postoperatively broad spectrum oral antibiotics and systemic decongestant combinations of levocetirizine, phenylephrine and paracetamol and local decongestant xylometazoline nasal drops and alkaline nasal douches for 7 days. The mass was sent for histopathological examination to the Pathology Department, PIMS (Medical College), Jalandhar.

Gross examination showed multiple tan-colored soft tissue polypoidal pieces together measuring  $5 \times 3.5 \times 1$  cm. Cut section of small polypoidal soft tissue was tan colored



**Fig. 2:** Histopathological picture of cavernous hemangioma maxillary sinus

exhibiting congestion. Microscopic examination of the tumor showed large blood-filled spaces lined with flattened endothelium, filled with blood and separated by fibrous stroma (Fig. 2).

## DISCUSSION

Vascular lesions are divided into hemangiomas and vascular or lymphatic malformations. The International Society for the Study of Vascular Anomalies has defined hemangioma as a benign vascular tumor.<sup>3</sup> The main difference between hemangiomas and vascular malformations is increased cell turnover in hemangioma. Batsakis<sup>4</sup> classified hemangiomas as capillary, cavernous, mixed and proliferative. Most adult hemangiomas are cavernous in nature, the capillary form being mainly encountered in children. Eggston and Wolff<sup>5</sup> reviewed a series of 359 cases of neoplastic diseases of nose and paranasal sinuses and found 14 cases of hemangioma—but none of them originated from maxillary sinus mucosa. Similarly Fu and Perzin<sup>6</sup> reviewed vascular tumors of the sinonasal tract; five were cavernous hemangiomas, none of which were located in the paranasal sinuses. Only reported case of cavernous hemangioma, originating from the maxillary sinus mucosa, was described by Engels et al.<sup>2</sup> The most common age of presentation is the fourth decade of life. They are more common in women (3:1).<sup>4</sup> The present case report is in a 36-year-old male. It has been reported that over 20% of the benign nonepithelial tumors involving the nasal cavity, paranasal sinuses and nasopharynx are capillary hemangiomas and those originating in the turbinates mucosa are often cavernous, with tendency to grow in a lateral direction.<sup>2</sup> This vascular tumor has a slow course with a tendency to destruction due to its compressive effect.

Clinically, maxillary sinus hemangioma usually remains asymptomatic, while common symptoms of hemangioma in the nasal region are epistaxis and nasal obstruction. Other possible symptoms include local pain or bleeding gums. In the present case also, nasal obstruction and frequent epistaxis were the common presentation. Hemangioma of maxillary sinus may originate from the bone or mucosa. In hemangioma of mucosal origin, history of epistaxis is more common, while histopathological examination shows bony specules along with the picture of hemangioma, if it is of bony origin (Ghosh et al 1988).<sup>7</sup>

The differential diagnosis of hemangiomas in the sinuses should include inverted papillomas, neuromas, mucocoeles, polypoid and cystic masses or other benign or malignant vascular tumors.<sup>2</sup>

CT and MRI define the extent of the tumor and the possible affection of nearby structures and help the differential diagnosis with vascular malformations.<sup>8</sup> MRI is used to rule out visceral affection. Arteriography is indicated in rare cases; it is used in cases where, either from excessive lesion size for surgical approach or from important systemic implications, the possibility of embolization is considered as part of the treatment.<sup>9</sup>

A wide variety of treatments exist. Among the noninvasive, corticosteroids (systemic or intralesional) and interferon alpha-2 can be found, with results which are acceptable but not without secondary effects.<sup>10</sup> In large tumors involving vital structures such as the skull base, or in those with no evidence of complete excision, a treatment with radiotherapy has been described, although its usefulness is under discussion.<sup>9</sup> Laws (1968)<sup>11</sup> reported one case where maxillary hemangioma disappeared without recurrence after a dose of 8300 of Cobalt-60. Among the invasive treatments, surgery is the main choice. The approach must be adjusted to the location and size of the tumor. Less aggressive techniques can be opted for, such as endoscopic surgery, and more radical techniques such as Caldwell-Luc approach or hemimaxillectomy with reconstruction in cases with more extensive maxillary affection.<sup>12</sup> In the present case, the approach was endoscopic removal. The most important complication during surgery is bleeding. Raboso et al (1997)<sup>1</sup> opined that surgical approach should be chosen after radiological assessment of the extension and vascular supply keeping in mind that profuse bleeding might be expected and an unrestricted field of view is advisable in order to control the hemorrhage. Blood transfusion should be planned in advance. In the present case, the mass was removed endoscopically without much hemorrhage. No blood transfusion was needed.

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