Bizarre Parosteal Osteochondromatous Proliferation Presenting in the Nasal Dorsum

S. Santino Cervantes, MD1; Matt Mors, BS2; Ryan Kau, MD1; Michael Hinni, MD1
Mayo Clinic Arizona, Phoenix AZ1; Midwestern University, Phoenix AZ2

Abstract

Bizarre parosteal osteochondromatous proliferations are benign and reactive lesions commonly found in the hands and feet. However, there have also been three published reports of these lesions occurring in the head and neck region. This article reports a case of a 53-year-old woman presenting with a bizarre parosteal osteochondromatous proliferation in the dorsal nose region; a previously unreported site. Initial misdiagnosis and limited excision led to recurrence of the lesion and a second procedure to remove it. Treatment was completed by simple excision with pathologically negative margins. An understanding of the possible sites for bizarre parosteal osteochondromatous proliferations will help lead to its successful diagnosis and removal and prevent recurrence.

Introduction

Bizarre parosteal osteochondromatous proliferations (BPOPs) were first examined and reported by Nora et al (1) in 1983. The occurrence of BPOPs was exclusively found in the hands and feet until Meneses et al. reported a lesion in the skull (2). Since that time these tumors can be seen in a wide age range. The exact cause of BPOPs is unknown, but trauma has been suggested (1,2).

Case Report

A 53-year-old smoking Caucasian female presented with a 10-month history of an asymptomatic left sided dorsal nasal mass which spontaneously occurred. Three months prior to her visit, the patient had undergone surgical removal of the mass by an outside provider. Two months later the lesion recurred at the left nasal dorsum bony cartilaginous junction. By palpation the lesion was consistent with cartilage, unattached to skin, and measured 12 x 12 mm. Internal nasal exam was unremarkable and outside computed tomography only commented on a calcified lesion confined to the bony dorsum.

Initial pathologic review of the first excision diagnosed the lesion as chondrosarcoma; however, upon further review and consultation at Mayo Rochester, the lesion was determined to be a parosteal osteochondromatous proliferation. Pathologically the lesion was characterized by proliferation of cartilaginous, noncapsulated tissue with some areas of hypercellular chondrocytes having pleomorphic angular nuclei with occasional binucleate forms. Binucleate chondrocytes were also identified.

After discussion at our Head and Neck Tumor board we elected to treat this BPOP as a low grade malignancy and obtain clear margins. Because of the tumor's location, facial plastic surgery was involved for reconstruction. Intraoperatively the lesion was found to be arising from the left nasal bone, and wide local excision was performed, including bony structure. The ipsilateral upper lateral cartilage was absent from prior excision and there was no mucosal involvement.

Once pathology confirmed negative margins, a septal cartilage graft was harvested to reconstruct the lateral nasal wall (right). Once secured, the skin was undermined and the defect closed primarily.

The patient was evaluated at three months post operatively and found to be disease free. Currently she is 14 months out and free of recurrence with satisfactory cosmetic and function outcome.

Figure 4. Cartilage graft in place
Figure 5. Four months post operatively.

Discussion

- BPOP is a rare, reactive, and benign yet locally aggressive lesion that is typically found in the hands and feet but can arise in the facial bones. These tumors affect male and female patients equally (2), and while the middle age group is most affected, 53% of these tumors can be seen in a wide age range.
- The exact cause of BPOPs is unknown, but trauma has been suggested (1,2).
- Radiographically distinct, BPOPs lack cortico-medullary continuity with the underlying bone since the mass grows in the parasyseous soft tissues.
- Histologic findings are numerous chondrocytes with bizarre enlarged and binucleate cells, lack of cytological atypia, hyperchromatic nuclei, and “blue bone” caused by deep blue staining of immature bony trabeculae with haematoxylin and eosin (4).
- Treatment is excision, but the need for wide local excision is debatable. There have been no cases of malignancy or metastasis reported. We felt it was important in our case to obtain negative margins, because the lesion had already recurred quickly. It was further important to eradicate the disease completely because of the potential cosmetic and functional deformity that could occur in the facial region.
- BPOP lesions have shown a recurrence rate of 20-50%, with re-recurrence being even more frequent (1,2). Consequently long term follow up is warranted.

Conclusions

- BPOP is a rare, benign yet locally aggressive tumor
- Although rare, this tumor may present on the facial skeletal structures including the nose
- Treatment is excision with negative margins
- Knowledge of possible presentation sites will facilitate quick diagnosis and proper treatment
- Recurrence rates are reported as high as 55% thus long term follow up is warranted

References


Contact:
Santino Cervantes, M.D.
Otolaryngology S. Head and Neck Surgery, Mayo Clinic Arizona
Email: cervantes.sergio@mayo.edu
Phone: 832.641.1270

Images borrowed from Shankly (3).