CASE REPORT

Bizarre parosteal osteochondromatous proliferation presenting in the nasal dorsum

Matthew Mors, Santino S Cervantes, Michael Hinni
Department of Otolanryngolog-Head and Neck Surgery, Mayo Clinic Arizona, Phoenix, Arizona, USA

Address for correspondence:
Dr. Santino S Cervantes,
Mayo Clinic Arizona (Site of Origin),
5777 East Mayo Boulevard,
Phoenix, Arizona 85054, USA.
E-mail: jaikiran78@gmail.com

Received: 02-08-2013
Accepted: 21-03-2015

ABSTRACT

We present the first bizarre parosteal osteochondromatous proliferation (BPOP) in the nasal dorsum. These lesions have been described since 1983; however, the vast majority of these lesions do not present in the head and neck, although five cases exist in the literature. An understanding of the potential sites for bizarre paraosteal osteochondromatous proliferations will help lead to successful diagnosis and proper treatment.

Key words: Benign bone tumor, cartilaginous tumor, Nora's lesion, parosteal proliferation

INTRODUCTION

Bizarre parosteal osteochondromatous proliferations (BPOPs) are benign lesions first described by Nora *et al*.,[1] in 1983. The colloquial term for these growths is Nora's lesion. The site of BPOPs was exclusively limited to the hands and feet until Meneses *et al*., reported a lesion in the skull.[2] BPOPs have since been reported in the anterior maxilla[3] and zygoma.[4] We present a single case of a patient with a parosteal osteochondromatous proliferation on the nasal dorsum.

CASE REPORT

A 53-year-old female presented with a 10-month history of an asymptomatic mass on the left nasal dorsum. No inciting factors could be identified. This lesion was excised 3 months earlier by another provider, yet the lesion recurred within 2 months. On palpation, the lesion was a 1 × 1 cm cartilage-like mass, yet it was fixed to the dorsum [see Figure 1]. The remainder of the head and neck examination was unremarkable. Radiographically, an outside computed tomography scan reported a calcified lesion confined to the bony dorsum.

Pathology from the first procedure diagnosed a chondrosarcoma; however, upon further review and consultation at Mayo Rochester, the lesion was determined to be a parosteal osteochondromatous proliferation. The lesion was characterized by nonencapsulated tissue with areas of hypercellular chondrocytes with pleomorphic angular nuclei with occasional binucleate forms and proliferation of cartilage. Cytogenetic testing was not performed. Figure 2a and b demonstrate a hypercellular cartilaginous area with early ossification and features of remodeling (osteoclasts are adjacent to the osteocartilaginous focus) with polygonal and spindle-shaped fibroblasts surrounding the osteochondromatous area.

After discussion with the multidisciplinary tumor board, we elected to treat the lesion as a locally aggressive tumor and ensure complete excision. The patient was taken to the operating room for wide local excision and reconstruction. Intraoperatively we observed that the lesion was arising directly from left nasal bone, so we included bone in our resection. Once pathology confirmed negative margins, a septal cartilage graft was harvested to reconstruct the lateral nasal wall providing adequate support. The overlying skin defect was closed primarily. Currently, post 2 years, she is free of recurrence and satisfied with her oncologic and cosmetic outcome.

DISCUSSION

BPOPs are rare, benign lesions typically found in the extremities. Our case is the first reported BPOP involving the nose; however, this is the sixth case in the maxillofacial region. These tumors affect male and female patients equally and can present in a broad age range.[2] The etiology of BPOPs is controversial, but trauma has been suggested.[1,2] Whatever the reason, BPOPs have a recurrence rate of 20–50% and if

Access this article online
Quick Response Code:
Website: www.jomfp.in
DOI: 10.4103/0973-029X.157225

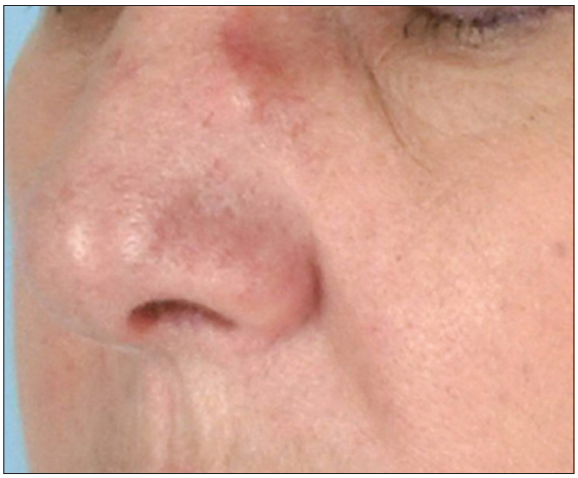

Figure 1: Clinical image of the patient presenting with a mass on left nasal dorsum

not handled properly the re-recurrence rate is significant.[1,2] Consequently, complete excision and long-term follow-up is suggested.

Histopathologically, BPOPs typically demonstrate the following: A hypercellular cartilage cap, numerous chondrocytes with bizarre enlarged, binucleate cells that lack cytological atypia, hyperchromatic nuclei and "blue bone" which is caused by deep blue hematoxylin and eosin staining of the immature bony trabeculae.[1,4] This occurs because the mass grows in the paraosseous soft tissues. The differential diagnosis of BPOP should include osteochondroma and parosteal osteosarcoma. Some radiographic characteristics can distinguish BPOPs such as the lack of corticomedullary continuity with the underlying bone. [5,6]

Treatment requires complete excision, yet no guidelines exist regarding the margin of the excision. There have been no cases of malignant degeneration or metastasis, but the recurrence rate is high causing anguish to the patient and physician. We felt it was important to obtain negative margins due to the history of patient's rapid recurrence and the potential for prominent facial deformity if not adequately controlled.

CONCLUSION

In conclusion, this tumor may present on maxillofacial structures including the nose. Knowledge of possible presentation sites will facilitate accurate diagnosis and proper treatment. Diagnostic characteristics are well documented both histologically and radiographically and accurate diagnosis can guide the appropriate resection. Treatment is surgical excision and we advocate wide surgical margins or negative margins confirmed by frozen section when the situation dictates because of a known high recurrence rate.

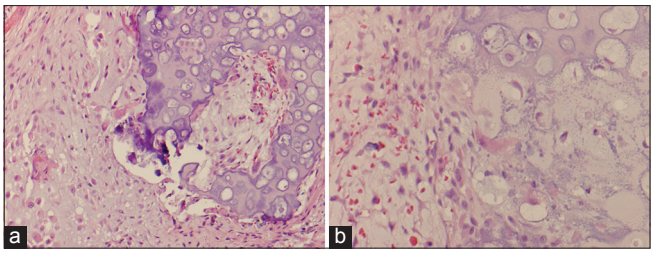

Figure 2: (a) A hypercellular cartilaginous area with early ossification and features of remodeling with polygonal and spindle-shaped fibroblasts surrounding the osteochondromatous area (H&E stain, x100). (b) Cartilaginous area with early ossification and features of remodeling with polygonal and spindle-shaped fibroblasts (H&E stain, x400)

REFERENCES

1. Nora FE, Dahlin DC, Beabout JW. Bizarre parosteal osteochondromatous proliferations of the hands and feet. Am J Surg Pathol 1983;7:245-50.
2. Meneses MF Unni KK, Swee RG. Bizarre parosteal osteochondromatous proliferation of bone (nora's lesion). Am J Surg Pathol 1993;17:691-7.
3. Shankly PE, Hill FJ, Sloan P, Thakker NS. Bizarre Parosteal osteochondromatous proliferation in the anterior maxilla: Report of a case. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1999;87:351-6.
4. Shakib K, Kalsi H, Tsiridis E, Kumar M. Rare case of bizarre parosteal osteochondromatous proliferation presenting in the zygoma. Br J Oral Maxillofac Surg 2011;49:e27-9.
5. Dashti HM, Reith JD, Schlott BJ, Lewis EL, Cohen DM, Bhattacharyya I. Bizarre parosteal osteochondromatous proliferation (Nora's lesion) of the mandible. A rare bony lesion. Head Neck Pathol 2012;6:264-9.
6. Sano T, Akamatsu H, Shima M. A patient with bizarre parosteal osteochondratous proliferation in the mandible. J Oral Maxillofac Surg Med Pathol 2012;24:54-8.

How to cite this article: Mors M, Cervantes SS, Hinni M. Bizarre parosteal osteochondromatous proliferation presenting in the nasal dorsum. J Oral Maxillofac Pathol 2015;19:109.

Source of Support: Nil. **Conflict of Interest:** None declared.