ABSTRACT
We report a rare case of 11 year old girl presented with history of painful swelling at right occipitocervical area since 1.5 years, with chief complaint of diplopia and torticollis since 6 months. After thorough evaluation by CT and MRI the tumor was removed in toto(microscopic) and occipitocervical fusion was performed. The vertebral artery was engulfed by the tumor which required mobilization.

KEYWORDS: Osteoblastoma, Occipitocervical junction, Vertebral artery reconstruction

INTRODUCTION
Osteoblastomas are bone producing lesions frequently localized in long bones and posterior elements of vertebra. It comprises of less than 1% of all bone tumors and among them 40% appears in spine[1]. Thoracolumbar region is the most common location and occipitocervical junction is least involved. The most common mode of presentation is painful swelling that associates with torticollis or scoliosis depending on the level of the lesion. Age of affliction commonly reported less than 20 years. Osteoblastomas are larger in size, tends to be more aggressive, and can undergo malignant transformation as compared with osteoid osteoma [2]. Literature has very few reports with respect to craniovertebral junction osteoblastoma and its treatment modality. Here we are reporting a case of osteoblastoma occipitocervical junction.

CASE REPORT
An 11 yrs old girl presented to us with painful progressive swelling in occipitocervical area with complaints of double vision and turning of neck to opposite side. On examination tender swelling that extends from right occipital area to upper cervical area, with firm to hard consistency fixed to underlying bones was observed. Child has torticollis toward left side due to pain. CT and MRI contrast showed expansile lesion arising mainly from lateral mass of C1 and right occipital condyle causing mass effect on right cerebellar hemisphere extending to right hypoglossal and jugular fossa engulfing the right vertebral artery.

Surgical management of case:
The child was placed prone, head fixed on Sugita three point fixation frame. By using far lateral approach the surgery was conducted in two parts, initial right suboccipital craniotomy was done and the second part was hemilaminectomy of C1. Most of the tumor was removed in toto but a chunk of the tumor engulfing the vertebral artery near superior border of C1 and lateral mass of C1 was taken out as a separate entity after mobilising cranial and C2 end of vertebral artery. During separation there was tearing in the vertebral artery which was repaired end to end under microscope. Occipitocervical fusion was done with screws and rods extending from occiput up to 4th cervical lateral mass and bone grafting was performed using iliac crest.

Histopathological study of excised mass showed stroma rich in spindle cells with plump cytoplasm and vascicular nuclei. Foci of calcification seen in addition to cystic and bone destruction were suggestive of osteoblastoma. From 1st Postoperative day patient mobilized with hard cervical collar on, and patient discharged 4th post operative day.
DISCUSSION

Osteoblastomas can present challenging management problems in pediatric patients. In the majority of cases in which conservative therapy fails or pathological diagnosis is required, surgery using modern intraoperative imaging and spinal instrumentation can provide symptom relief and tumor control[3]. The overall outcome after surgical treatment of osteoblastoma with fusion is excellent. Complete relief of symptoms was achieved in >90% of patients in most surgical series [4] and pain relief occurred early in the post operative period. Persistent pain is often indicative of residual tumor with incomplete resection. In the world literature from various sites including pubmed, medscape, Series, of 7 patients including 5 men and 2 women, with a mean age of 21.0 years (range 3.0-38.0) were reported[5].

Clinical outcomes were evaluated immediately and after a mean follow-up of 27.6 months concludes that removal of osteoblastomas of the occipitocervical junction is safe and efficient. Stability is preserved if more than half the joints are preserved with a proper surgical approach[5]. Our treatment option was consistent with other literatures. From our surgical experience to remove osteoblastomas of the occipitocervical junction will be in the vertebral artery vicinity requires special consideration in terms of dominance and the caliber of artery.
In paediatric age caliber of vessel is very thin and very much prone for injury even with proper precautions. The dominance is more profound in adults and whenever the tumor involves vertebral artery careful mobilization is necessary. In our patient since the caliber was thin there was a tear which involved more than 3/4th of circumference of vessel. It was reconstructed end to end, post surgery a good flow inside the artery was confirmed with doppler study.

The differential diagnosis includes osteoid osteoma, aneurysmal bone cyst, osteogenic sarcoma, and localized pyogenic infection. Osteoid osteoma produce similar picture[6], however, unlike osteoblastoma it has limited growth potential and is less than 1.5 cms diameter. Osteoblastoma recur in approximately 10% -15% of cases with incomplete removal. Because of risk for post radiation sarcoma and its poor prognosis, radiotherapy is reserved for patients who have an incomplete resection[7].

CONCLUSION

We are presenting a rare case of osteoblastoma of occipitocervical junction had been successfully removed and occipitocervical fusion was performed. The incidence of osteoblastoma in occipitocervical junction demands special diligence due to its proximity to vertebral artery. The thin caliber of vertebral artery in pediatric patients is an added concern during tumor resection. The Primary resection and fusion usually results in favorable outcomes of pain relief and deformity correction.

REFERENCES


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