CASE REPORT

SESSILE PELVIC OSTEOCHONDROMA: A RARE CASE THAT REQUIRED ABDOMINAL WALL RECONSTRUCTION AFTER EXCISION

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Osteochondroma are the most common benign tumours of the bone presenting in the young age group. Commonly found at the metaphysis of the long bones and mostly pedunculated; atypical locations and sessile appearances have also been described in literature. Due to the risk of conversion to malignant chondrosarcoma, the recommended treatment of these lesions is complete excision. We encountered a similar sessile growth in the pelvic region of a 21-year-old male with complaints of pain and swelling. After thorough investigation, excisional biopsy was performed and abdominal wall repair was reinforced with a polypropylene mesh. Careful evaluation, adequate investigations and meticulous surgical treatment can avoid potential problems in managing these tumours.

Keywords: Osteochondroma; Exostosis; Pelvis; Excision; Ilium; Abdominal wall

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INTRODUCTION

Osteochondroma are the most common benign bone tumours accounting for approximately 50% of the cases.[1] These are more frequently encountered in the first two decades of life although clinical presentation in later age groups is also not atypical.[2] Morphologically these tumours can be either sessile or pedunculated with more predominance of the latter. Commonly found at the metaphyseal regions of long bones[1], Osteochondromas have been described at various atypical sites such as pelvis, feet, scapula and spine[3–5]. Often the presenting symptom for consultation is a hard painless swelling or discovered as an incidental finding. However often pressure symptoms such as pain, nerve or vascular compression are the cause for consult. While most of these are solitary occurrences, about 15% of these are due to autosomal dominant trait known as Hereditary multiple exostosis with mutation in genes EXT1 and EXT2 eventually leading to deficiencies of heparan sulphate.[6]

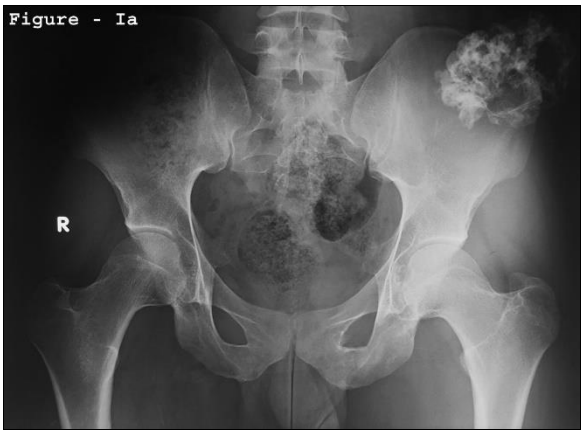
While most osteochondromas are solitary and may undergo spontaneous regression[7], some of these cases may undergo malignant transformation overtime. Incidence of malignant change is higher in hereditary multiple exostosis[8], when cartilage cap thickness is greater than 2 cm and when there is abrupt growth of lesion after skeletal maturation. Hence it is important to keep patient in regular follow up for surveillance of these growths. Sessile growths tend to have a higher malignant potential than pedunculated ones and hence en-bloc excision is the recommended method of treatment for these growths. In the following case report, we have described a sessile osteochondroma of the iliac blade which was excised en-bloc and the abdominal wall was reinforced with a polypropylene mesh.

CASE REPORT

21 years old male presented to outpatient department with complaints of pain and swelling in the left lumbar region for the last 5 years. Upon further questioning he explained that the pain is mostly associated with exertion and when he tries to sleep flat on his back. On examination there was a slight bulge over the left iliac blade posteriorly with no skin changes. Palpation revealed that the mass was hard, immobile with edges not well defined due to its position. Plain radiograph revealed popcorn like mass over the left iliac blade consistent with osteochondroma Figure–Ia. An MRI with contrast was carried out which showed a 9.4×8.0×7.7 cm mass originating on the outer border of iliac blade with no distinct margin or pedicle. The mass showed heterogenous contrast enhancement with well-defined soft tissue margins and a maximum cartilage thickness of 0.5 cm figure–Ib.

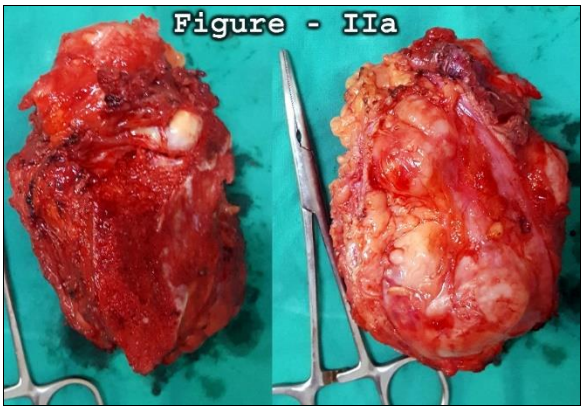
After detailed discussion with the patient, an excisional biopsy of the mass was planned given the benign findings evident upon examination and radiology. Under general anaesthesia, patient was placed in lateral position. A curved incision was given over the swelling and superficial dissection was carried out to define the deep musculature and base of swelling. At the base it was evident that the mass was sessile and hence excision was performed along with the border of the iliac blade as shown in figure–2a. Post resection a large defect was evident (approximately 12×4 cm) base of which comprised intact peritoneum. The abdominal musculature was sutured to the iliac bone and was further reinforced with an on-lay polypropylene mesh Figure–2b. Skin closure was done over drain and patient was instructed to wear an abdominal binder when mobilizing out of bed. Sutures were removed at two

weeks post operatively in clinic and binder was discontinued at 4 weeks. Histopathology report confirmed the diagnosis of osteochondroma with no evidence of malignancy. At 1 year follow up patient had no complaints and was able to do his daily activities without any discomfort. There was no herniation at the scar region and radiograph showed no evidence of recurrence as evident in figure–3.



Figure–1(a): pre-operative radiograph demonstrating a bony lesion at the left iliac blade.

Figure-1(b): Coronal and axial cuts of MRI showing the sessile morphology of the osteochondroma.



Figure–2(a): Resected specimen from medial and lateral surface

Figure-2(b): Post excision defect repaired and reinforced with a mesh.

Figure-3: Post operative radiograph and clinical appearance at 1 year follow up.

DISCUSSION

Most osteochondromas undergo spontaneous involution over time[7], it is still standard practice to perform excisional biopsy of these lesions in order to relieve

symptoms and also to avoid the hassles of prolong follow up and the risk of later malignant change. Although Ilium is an uncommon site of presentation for these tumours, still plenty of cases are described in the literature where osteochondromas of the pelvic region had variety of presenting complaints.[9–11] A recent comprehensive review of such cases has been published by Sun J. *et al* where they have described 9 case reports of pelvic osteochondromas along with their own case report.[12] All the patients described were older than 18 years and had variety of presenting symptoms ranging from pain, cosmetic deformity, numbness, snapping hip to even decreased urine stream from a symphyseal growth.

Sessile osteochondromas tend to have higher malignant transformation[13] and since our case also had a broad attachment to the iliac blade we decided for excisional biopsy. Complete en-bloc resection of the growth led to removal of some part of the iliac crest at the base of tumour. The abdominal wall musculature was under slight tension when approximated for closure and therefore a polypropylene mesh was used to further strengthen the repair. Use of a mesh for repair is a norm for repairing abdominal wall hernias and even in the complicated incisional hernias.[14] However, in our case since the muscle was under slight tension after approximation; in such scenario literature supports the use of a mesh suture repair to prevent herniation.[15]

CONCLUSION

Osteochondroma of the pelvis is a rare disease that is amenable to surgical resection. However, one must be cautious of the possibility of malignant potential of these tumours. A sound knowledge of the pelvic anatomy and careful surgical reconstruction of the tissues can lead to a good outcome and a satisfied patient.

AUTHORS CONTRIBUTION

All authors contribution equally in the completing of the case report.

REFERENCES

1. Dahlin DC, Unni KK. Bone tumours: General aspects and data on 8,547 cases. 4th Ed. United States: Charles C Thomas Publisher; 1986.
2. Baig MN, Auckloo R, Baig U, Kearns SR. An Unusual Presentation of Osteochondroma in a Sexagenarian. Cureus 2017;9(11):e1868.
3. Jadhav PU, Banshelkikar SN, Seth BA, Goregaonkar AB. Osteochondromas at Unusual Sites- Case Series with Review of Literature. J Orthop Case Rep 2016;6(1):52–4.
4. Rahman A, Bhandari PB, Hoque SU, Ansari A, Hossain AT. Solitary osteochondroma of the atlas causing spinal cord compression: a case report and literature review. BMJ Case Rep 2012;2012:bcr1220115435.
5. Thomas C, Sanderson B, Horvath DG, Mouselli M, Hobbs J. An Unusual Case of Solitary Osteochondroma of the Iliac Wing. Case Rep Orthop 2020;2020:8831806.
6. Li Y, Wang J, Tang J, Wang Z, Han B, Li N, *et al*. Heterogeneous spectrum of EXT gene mutations in Chinese patients with hereditary multiple osteochondromas. Medicine (Baltimore) 2018;97(42):e12855.
7. Aiba H, Yamada S, Yamamoto N, Hayashi K, Miwa S, Tsuchiya H, *et al*. Spontaneous shrinkage of solitary osteochondromas. Skeletal Radiol 2018;47(1):61–8.
8. Czajka CM, DiCaprio MR. What is the Proportion of Patients With Multiple Hereditary Exostoses Who Undergo Malignant Degeneration? Clin Orthop Relat Res 2015;473(7):2355–61.
9. Chun YS, Rhyu KH, Cho KY, Cho YJ, Lee CS, Han CS. Osteochondroma Arising from Anterior Inferior Iliac Spine as a Cause of Snapping Hip. Clin Orthop Surg 2016;8(1):123–6.
10. Herode P, Shroff A, Patel P, Aggarwal P, Mandlewala V. A Rare Case of Pubic Ramus Osteochondroma. J Orthop Case Rep 2015;5(3):51–3.
11. B Magalhães LV, Massardi FR, C Pereira SA. Pelvic osteochondroma causing meralgia paresthetica. Neurol India 2019;67(3):928–9.
12. Sun J, Wang ZP, Zhang Q, Zhou ZY, Liu F, Yao C, *et al*. Giant osteochondroma of ilium: a case report and literature review. Int J Clin Exp Pathol 2021;14(4):538–44.
13. Nekkanti S, Savsani S, Reddy Y, Meka A, Mahtani A. A rare sessile variant of osteochondroma presenting at an unusual site of the iliac wing in a 15-year-old boy. J Orthop Allied Sci 2018;6(2):93–5.
14. Burger JW, Luijendijk RW, Hop WC, Halm JA, Verdaasdonk EG, Jeekel J. Long-term follow-up of a randomized controlled trial of suture versus mesh repair of incisional hernia. Ann Surg 2004;240(4):578–83;discussion 83–5.
15. Lanier ST, Dumanian GA, Jordan SW, Miller KR, Ali NA, Stock SR. Mesh Sutured Repairs of Abdominal Wall Defects. Plast Reconstr Surg Glob Open 2016;4(9):e1060.

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