

Research Article



Atypical Presentation of Subperiosteal Neurilemoma

Bishnu P. Patro^{1*}, Saroj K. Patra¹, Sitansu Panda², M Jagatjit¹, Mahesh C. Sahu³

¹Department of Orthopaedics, IMS and SUM hospital, Siksha 'O' Anusandhan University, K8, Kalinganagar, Bhubaneswar, Odisha, India.

²Department of Anatomy, IMS and SUM hospital, Siksha 'O' Anusandhan University, K8, Kalinganagar, Bhubaneswar, Odisha, India.

³Central Research Laboratory, IMS and SUM hospital, Siksha 'O' Anusandhan University, K8, Kalinganagar, Bhubaneswar, Odisha, India.

*Corresponding author's E-mail: bishnucolours@yahoo.co.in

Accepted on: 10-06-2014; Finalized on: 30-06-2014.

ABSTRACT

Sub periosteal neurilemoma is very rare. As per our knowledge this is the third reported case. We report a case of young male of 35 years with unexplained knee pain for two years. Without any obvious diagnosis, he was treated with all possible medicaments and physiotherapy. Radiograph was unremarkable. Case confirmed with ultrasonography and excisional biopsy. With excision of mass patient was pain free.

Keywords: Femur, Knee pain, Neurilemoma, Subperiosteal.

INTRODUCTION

Neurilemoma are benign tumors arising from schwann cells of the nervous system. These are usually solitary, encapsulated tumors found on nerve roots.¹ Of all bone tumors neurilemoma accounts for less than 0.2%. It is usually seen in medullar cavity of bone, rarely it is seen under the periosteum. As per the literature there are only two such cases of subperiosteal neurilemoma. These tumors were more common in males with peak in adult age group.² Diagnosis of these tumors is usually late, because of its deep location under the periosteum and muscle mass. Mostly patient are treated on different lines before the diagnosis is confirmed. We present a rare case of subperiosteal neurilemoma in a young male of 35 years situated on distal aspect of femur with diffuse knee pain.

CASE REPORT

A young male of 35 year presented with diffused knee pain (Figure 1) for last 2 years. He was on different medication and physiotherapy. But his pain was not responding to analgesics and progressive, in-spite of treatment at various clinics. On examination his knee was mobile without any ligament instability and deformity. A vague small swelling was palpable but not visible on medial aspect of lower third of thigh. Swelling was deeply placed where the margin and mobility was difficult to delineate. Routine radiograph of knee was unremarkable (Figures 2,3). Ultrasonography revealed well defined hypoechoic lesion overlying left femur measuring 1.24 Cm X 0.64 Cm without calcification, cystic change, vascularity and bony erosion (Figure 4). Next we planned for excisional biopsy. Intra operatively it was a small glistening mass under the periosteum free from bony cortex measuring 1.4 Cm X 1.0 Cm (Figure 5). On Biopsy the mass was confirmed as neurilemoma. Following excision of the mass pain subsided significantly. Following

two weeks of surgery knee was pain free. Patient is asymptomatic till now (4 years follow up).



Figure 1: Skin marking of neurilemoma in distal thigh



Figure 2: X-ray of thigh (ap & lat)

DISCUSSION

Neurilemoma otherwise called as schwannoma is a benign tumor of nerve sheath. It arises from schwann cells of nerves and mostly on sensory nerves. Neurilemoma are commonly seen in young individuals and in 10 to 15% cases it is associated with neurofibromatosis. Among all

bone tumors, Neurilemoma is very rare and contribute to less than 0.2% of all bone tumors.^{3,4}

It is usually seen in intrasosseous areas of long bones such as tibia, fibula, femur, humerus etc.⁵⁻⁷ We found a very rare case of neurilemoma located at subperiosteal region of distal femur. Because of its juxta-articular location patient complained of diffuse knee pain and lead to a diagnostic dilemma. He was treated in line of knee pain at many places for years with medication and physiotherapy without any relief.

A similar one and only case of subperiosteal neurilemoma on of femur was reported by Verma et al. in the year 2002.⁸

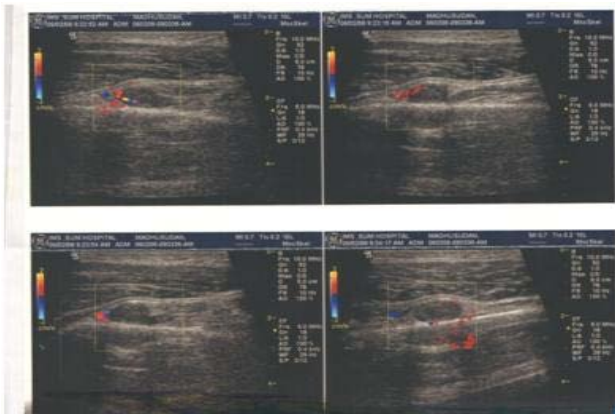


Figure 3: Ultrasonography of thigh (neurilemoma as hypoechoic lesion under periosteum)



Figure 4: Sub-periosteal location of neurilemoma



Figure 5: Gross morphology of neurilemoma

Neurilemoma in subperiosteal location usually present very late and mostly with vague symptoms. Such patients as that of our patient was too treated in line of unexplained knee pain with medication and physiotherapy. The x-ray was inconclusive and diagnosis was more delineated with help of ultrasonography, we presume a routine ultrasonography in unexplained knee may be advocated. We had not advised for MRI as we could reach the diagnosis with ultrasonography. As excisional biopsy was the ultimate for diagnosis and might be the final mode of treatment.

CONCLUSION

Subperiosteal location of neurilemoma is very rare. As it is deeply placed and difficult to palpate diagnosis is usually late. Unexplained diffuse pain around a long bone without any other sign and symptoms, subperiosteal neurilemoma can be thought of.

Consent

Written informed consent was obtained from the patients for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Authors' contributions

The corresponding author operated the patient, 2nd, 3rd and 4th author assist the operation the 5th author wrote the original report and performed a literature review. All authors have read and approved the final manuscript.

Acknowledgement: The authors would like to thank Er. G Kar for extended facility. MC Sahu is the research associate of IMS and SUM Hospital, Siksha 'O' Anusandhan University, Bhubaneswar.

REFERENCES

1. Morris JH, Cotran RS, Kumar V, Robbins SL. WB Saunders, The nervous system in Robbins Pathologic Basis of Disease, ed 4. Philadelphia, 1989, pp 1445-1447.
2. Anthony DC, Vogel S: Peripheral nervous system, in Damjanov I, Linder J, Anderson WAD (eds): Anderson's Pathology, ed 10. St Louis, Mosby, 1996, pp 2824-2826.
3. Samter TG, Vellios F, Shafer WG. Neurilemoma of bone. Radiology 1960, 75, 215-222.
4. Wirth WA, Bray CB. Jr. intraosseous neurilemoma. J Bone Joint Surg (Am) 1977, 59, 252-255.
5. Gine J, Calmet J, Sirvent JJ, Domenech S. Intraosseous neurilemoma of the radius: a case report. J Hand Surg [Am]. 2000;25(2),365-9.
6. Vora RA, Mintz DN, Athanasian EA. Intraosseous schwannoma of the metacarpal. Skeletal Radiol. 2000, 29(4), 224-6.
7. Mutema GK, Sorger J. Intraosseous schwannoma of the humerus. Skeletal Radiol, 2002, 31(7),419-21.
8. Verma RR, Khan MT, Davies AM, Mangham DC, Grimer RJ. Subperiosteal schwannomas of the femur. Skeletal Radiol. 2002, 31(7), 422-5.

Source of Support: Nil, Conflict of Interest: None.

