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Case Report

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A rare presentation of intramuscular ganglion cyst in gastrocnemius muscle: a case report

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ABSTRACT

Ganglion cyst is a common benign cystic lesion but its presence at intramuscular region is rare. There are very few such reported cases in literature which are confirmed by histopathology. Here we are reporting a rare case of ganglion cyst in medial head of gastrocnemius muscle in a 20 year old male who presented with complaints of swelling in proximal aspect of left leg associated with occasional pain. The diagnosis was made on the basis of MRI and was confirmed histopathologically.

Keywords: Intramuscular, Gastrocnemius, Ganglion cyst

INTRODUCTION

Ganglion cysts are common benign cystic lesion, most commonly present around wrist. These are non-neoplastic lesion that contains mucinous fluid within fibrous connective tissue capsule.[1] Male: female prevalence ratio of ganglion cyst is 1:3.[2] Intramuscular cysts in gastrocnemius are rare and very few cases have been reported. Ultrasonography (USG) and magnetic resonance imaging (MRI) are preferred investigation modalities and can differentiate cysts from other causes of soft tissue swellings. These also give detailed information about exact location, size and extent of cystic swelling.[3] Here we are presenting a rare case of ganglion cyst in gastrocnemius muscle.

CASE REPORT

A 20 year old male patient presented with complaints of swelling in postero-medial aspect of left proximal leg for 3 months with no sensory, motor or functional impairment. It was associated with occasional pain during walking. No associated trauma history. Clinical examination showed oval cystic swelling of size about 6×3 cm on postero-medial aspect of left proximal leg. Non-tender, non-pulsatile and non-compressible. No signs of knee joint involvement. No associated neural or vascular compression was present. Blood investigation were within normal limits. USG revealed multilobulated cystic lesion of 18×41×12 mm in superficial plane of medial head of gastrocnemius muscle 3 cm away from popliteal fossa. No evidence of any irregularity in bone. MRI showed multilobulated well defined, smooth marginated, oblong shaped lesion in superior part of medial head of gastrocnemius measuring 5.7×1.5×1.5 cm, hyperintense on T2 and hypointense on T1 images. No evidence of calcification, haemorrhage or perilesional edema, suggestive of intramuscular ganglion cyst. Pre anaesthetic workup was done and under spinal anaesthesia cyst was completely excised. Cyst was present in the substance of medial head of gastrocnemius and had a narrow neck proximally. The neck was ligated and cyst was excised in toto. Histopathological examination confirmed the diagnosis of ganglion cyst which showed multiple cystic chambers with fibrous tissue wall.

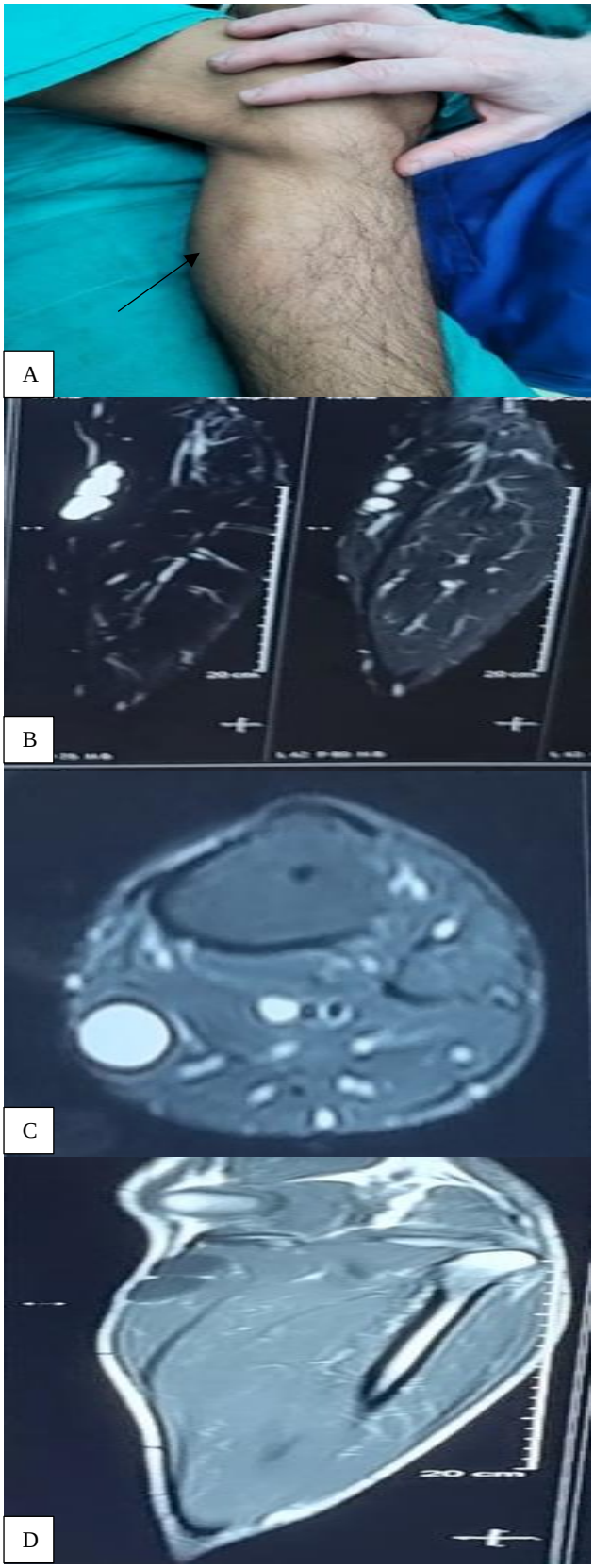

Figure 1 (A-D): Preop clinical photograph of cystic swelling in left proximal calf region. T2 weighted MRI images showing cystic lesion with multiple cystic chambers and narrow neck. T1 weighted MRI image of cyst in substance of gastrocnemius muscle.

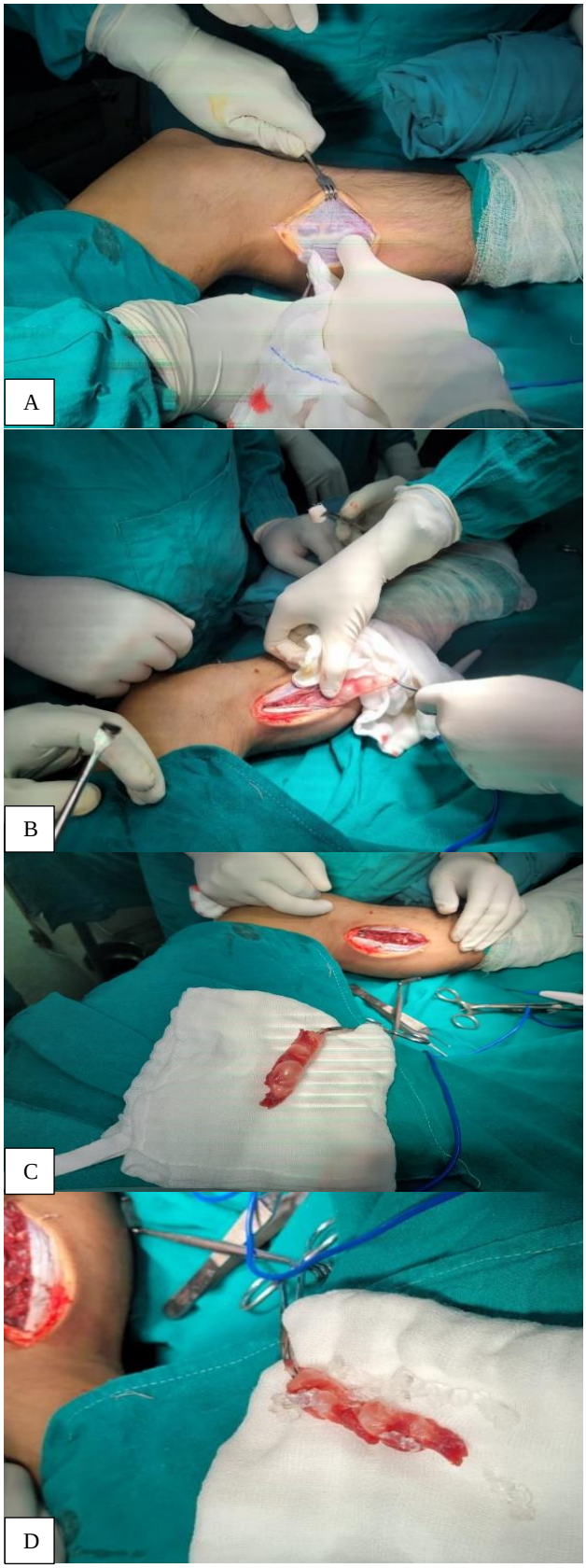

Figure 2 (A-D): Intraoperative image of ganglion cyst in gastrocnemius muscle. Multilobulated cyst excised from fibres of gastrocnemius muscle. Cyst completely excised in toto. Viscous mucinous fluid present inside cyst.

DISCUSSION

Ganglion cyst is a benign tumor like mass and characterized by cyst containing highly viscous mucinous fluid surrounded by dense fibrous connective tissue capsule.[1,4] Ganglion cysts of lower extremity accounts for 15 to 20 percent of all ganglion cysts.[5] Ganglion cysts usually arise from cystic degeneration in a tendon sheath or joint capsule.[6] Few reasons for occurrence of intramuscular ganglion cyst are that they are sequestration cyst formed by seepage of joint fluid from a defect on surface of a tendon and leading to pooling up within intramuscular plane forming a fluid like collection or pseudo-cyst.[2] Other possible cause is sequestration of extraarticular synovial remnant at the time of joint development or micro-herniation through defects in the joint capsule or tendon sheath which subsequently gets strangulated and cutoff.[2]

Intramuscular ganglion cysts are uncommon and such cysts with no connection with knee joint are even rarer. Diagnosis is made on the basis of radiological investigations like ultrasonography and MRI. Ultrasonography is useful but usually not sufficient for obtaining details of lesion like origin, relation with knee joint and surrounding structures and thus MRI becomes the best and most valuable investigation here.[2] Ganglion cyst in MRI presents as hypointense signal mass on T1 weighted images and hyperintense signal mass with thin low- signal intense rim and septa on T2 weighted images, as found in our case also.[4] The various differential diagnosis possible in case of intramuscular ganglion cysts are baker's cyst, lipoma, intramuscular myxomas, myxoid liposarcomas and posttraumatic cysts.[1,2]

Excision biopsy is best treatment modality and considered as gold standard for management of ganglion cysts. Aspiration of cyst is often associated with recurrence and is not a recommended modality of treatment.

CONCLUSION

Intramuscular ganglion cyst in gastrocnemius muscle is extremely rare. Magnetic resonance imaging is best investigation for diagnosis. Excision biopsy is gold standard of management. Aspiration of cyst is not recommended as it is associated with high recurrence rate.

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