Rectus Muscle Haemangioma: A Case Note With Analysis Of Previously Reported Cases

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Abstract

Intramuscular haemangiomas are very rare benign tumors making up less than 1% of all haemangiomas. Among intramuscular haemangiomas, abdominal muscle haemangiomas are the rarest.

A 17 year old boy presented to us with a lump in the left side of his abdomen for 12years which was operated upon once. The lump has gradually increased to its present size of 7X4 cm in the umbilical and hypogastric regions. On examination underneath the scar it was soft, compressible and non pulsatile. His routine investigations were within normal limits. Doppler sonography showed a mass lesion with sinusoidal channels in the left rectus muscle and delineated the feeding vessel from the left inferior epigastric artery. Patient underwent excision of the haemangioma with part of the rectus muscle and ligation of the left inferior epigastric artery. The defect in the abdominal wall was repaired with single layer of polypropylene mesh. Post operative histopathological examination showed cavernous haemangioma from the left rectus muscle. He is well and disease free 18 months after surgery.

ABBREVIATIONS

M.R.I – Magnetic Resonance Imaging.
Tc – Technetium.
F.N.A.C – Fine Needle Aspiration Cytology.
C.T – Computed Tomography.
m/s- Meters per second.
Fig – Figure.
cm – centimeter.

INTRODUCTION

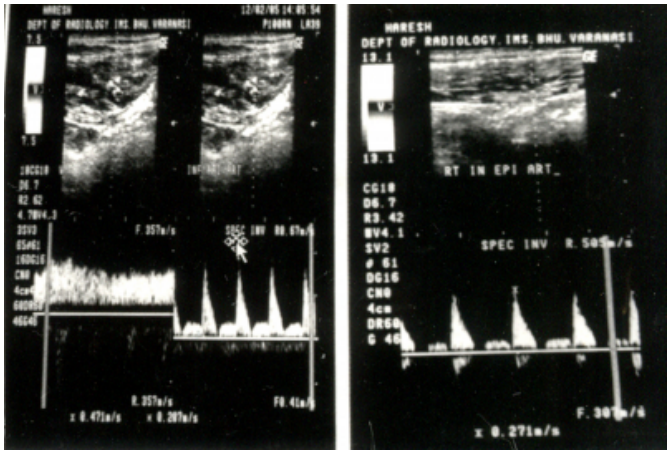
Intramuscular haemangioma is a rare vascular tumor and accounts for less than 1% of all haemangiomas[1,2]. It commonly involves the extremity muscles, while only three cases of abdominal wall muscle haemangioma are reported in English literature[1]. Inspite of its rarity these haemangiomas are of clinical interest because of their varied clinical presentations and ability to mimic aggressive tumors.

CASE NOTE

A 17 year old boy presented to us with a lump in his left side of abdomen which he had observed at 5years age. He was operated upon outside once for the lump three months back which was aborted midway due to excessive hemorrhage. Lump has since gradually increased to the present size. On examination there was a scar over the mass, but no impulse on coughing, visible peristalsis or skin discoloration seen. It was soft in consistency, compressible and non pulsatile about 7X4 cm in size occupying the left side of umbilical and hypogastric region. On leg raising test the swelling became prominent. His routine investigations were within normal limits. Fine needle aspiration cytology picture was inconclusive which showed a bloody picture with some skeletal muscle cells. Doppler study showed the mass lesion in the left side of anterior abdominal wall in the left rectus muscle with sinusoidal channels typical of a haemangioma. A feeding vessel was arising from the left inferior epigastric artery with increased flow rate in the left artery compared with the right inferior epigastric artery. [Fig 1].

Figure 1

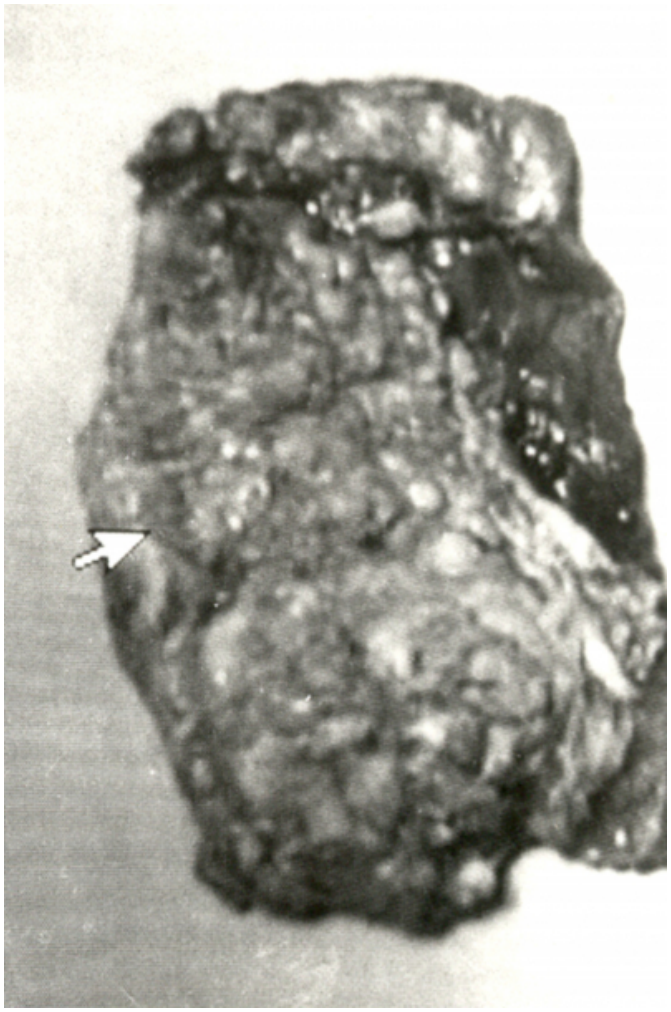
Figure 1: Doppler sonography showing mass lesion in left rectus muscle with increased flow in left inferior epigastric (357m/s) compared to right (271m/s).



The patient underwent surgery and the whole mass with the involved left rectus muscle was excised. [Fig 2]

Figure 2

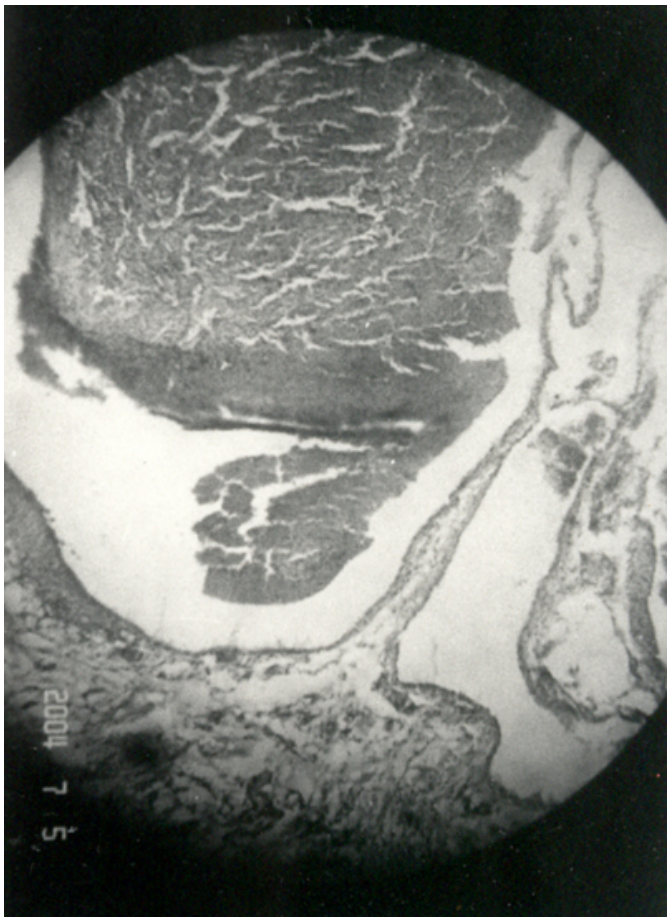
Figure 2: Excised muscle and haemangiomatous tissue.



The left inferior epigastric vessel was ligated and divided. Anterior abdominal wall defect was repaired with a single layer of Polypropylene mesh. Post operative histopathology showed large, thin walled dilated vessels lined by flattened endothelial cells characteristic of cavernous haemangioma. [Fig 3]

Figure 3

Figure 3: Histopathology picture showing thin walled dilated vessels with flattened endothelial cells.



The patient is well and diseases free at 18 months follow up.

DISCUSSION

Vascular malformations are benign and rare tumors which generally present during the early years of life[1]. They are of interest due to their ability to mimic malignant tumors and varied presentations[3]. It usually is a slow growing mass that may or may not be painful[3]. Intramuscular haemangioma is a rare entity accounting for less than 1% of all haemangiomas[1,2]. Mostly they occur in limbs followed by the head and neck region1. Abdominal wall muscle is the rarest site among all intramuscular haemangioma with probably only three previously reported cases[1].

The exact cause of intramuscular haemangioma has been something of an enigma[3]. Theories of congenital developmental anomaly along with preceding history of trauma have been listed as major factors3. Abdominal wall muscle could be an infrequent site for vascular malformation due to less chance of trauma compared to the limbs and absence of any direct high flow arterial branch supplying the muscles. Soft tissue swelling and pain are common symptoms for intramuscular haemangiomas[3,4]. Pain has been attributed to the peculiar association of abnormal blood vessels with nerve fibres and presence of substance P in substantial levels[3]. These tumors also can mimic aggressive tumors like sarcomas[1,5].

Clinically haemangiomas can be misdiagnosed in 90% of cases[3]. Diagnostic approaches with Doppler imaging, Magnetic Resonance Imaging (MRI), Angiography and Tc-99m erythrocyte localization give significantly better results[1,2,6,7]. MRI has been used as a diagnostic modality in all three previously reported cases of abdominal wall haemangioma and is perhaps the modality of choice to know the extent of the tumor1. Doppler sonogrARphy like in our case has also been reported as a useful procedure in describing arteries around the masseter muscle[8]. Based on the predominant vascular pattern they are classified histologically into three types, capillary, cavernous and mixed types[3].

Treatments of these tumors have evolved over the time. Spontaneous resolution has been known to occur[3]. Conflicting reports of radiotherapy, cryotherapy and angio-embolization are reported in literature[3,6]. Surgical excision of the mass and the involved muscle with ligation of the identified feeding vessel is probably the choice of treatment in all intramuscular haemangiomas including abdominal wall haemangiomas[1,3,9]. Abdominal wall haemangiomas need special precaution in closing the defect caused by the excised muscle[1]. Rarity of the tumor with lack of large series and definitive management protocol has shown a high incidence of recurrence and worsening of symptoms, which is directly related to failure in identification of feeding and draining vessels[1].

Figure 4

Table 1: Table showing characteristics of previously reported abdominal wall haemangioma and the present case.

Author/Year	Patient characteristics	Diagnosis	Treatment	Closure	Follow-up
Goldberg et al 2004	Age 33 years, Female.	FNAC: Blood spindle cells & skeletal muscle. CT:Inconclusive MRI: Internal oblique mass	Muscle excised	Primary closure	Eight months.
Goldberg et al 2004	Age 40 years, Female, History of 13 previous operations.	MRI: Left rectus muscle tortuous vessels.	Left rectus with peritoneum excised.	Mesh reconstruction.	Twenty four months.
Goldberg et al 2004	37 years, Female.	CT: Fat density. MRI: Right rectus vascular mass	Abdominal wall resected.	Marlex mesh reconstruction.	Twelve months.
Sharma et al 2005	17 years, Male.	FNAC: Inconclusive. Doppler sonography: Mass in left rectus with sinusoids	Left rectus muscle excised. Peritoneum spared.	Polypropylene mesh reconstruction.	Eighteen months.

CONCLUSION

Abdominal wall intramuscular haemangioma is a very rare type of vascular tumor probably due to anatomical factors of the supplying vessels. It needs a high index of suspicion, to diagnose pre-operatively. Doppler sonography can be used to delineate the feeding vessels and surgical excision of the mass remains the best modality of treatment.

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