Proliferative fasciitis arising from the abdominal wall: A rare tumour excised by laparoscopy

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Abstract

Proliferative fasciitis (PF) is a rare pseudosarcomatous lesion arising from the subcutaneous fascia and the fibrous septa. Only few hundred cases have been reported in the literature. In the largest series of 53 patients, only two patients had PF lesion arising from the flank. The most common site of origin is extremities followed by abdomen and head and neck. Its origin from the abdominal wall layer and presentation as the fever has been rarely reported in the literature. A PF lesion larger than 5 cm dimension has been sparsely noted. We report the presence of this rare entity in a 68-year-old gentleman who presented to us with low-grade fever and the presence of large lump arising from the abdominal wall. In our patient, the lesion was arising from transversalis fascia and was excised in toto laparoscopically without damaging the abdominal muscles. It is imperative to differentiate both these lesions from sarcoma on histopathological examination as the follow-up treatment protocols for both vary.

Keywords: Proliferative fasciitis, pseudosarcoma, abdominal wall tumor

INTRODUCTION

Proliferative fasciitis (PF) is a very rare self-limiting, benign, reactive fibroblastic proliferative lesion that is often confused with a sarcoma-like rhabdomyosarcoma because of rapid growth and characteristic histological feature.¹ The origin of such lesions from the abdominal wall musculature and association with fever as presenting symptom has seldom been reported.

CASE REPORT

A 68-year-old diabetic gentleman presented to a physician with complaints of low-grade fever for the past 2 months, which was not associated with chills or rigor. There was a history of pain in the right lower quadrant of the abdomen for 7 days. The pain was dull and non-radiating. There were no significant urinary or bowel-related symptoms. He had undergone laparoscopic appendectomy 2 years back. On examination, his performance status was good, and general and systemic examination including per abdomen was unremarkable. On evaluation, routine blood tests including complete blood count were normal. Contrast-enhanced computed tomography (CT) scan revealed a 4.8 cm × 4.3 cm mass present in the right iliac fossa (RIF) likely to be an enlarged lymph node [Figure 1a and b]. The CT scan was not conclusive about the involvement of intra-abdominal structures; a
decision to go ahead with a diagnostic laparoscopy was taken. On laparoscopy, it was evident that the swelling arose only from the parietes and the omentum or mesentery including the bowels were clear of the lesion [Figure 2a]. The lesion was completely excised with a plane of dissection kept between transversalis fascia and internal oblique (IO). The excised specimen was sent in for a frozen section after extracting it in an endobag which revealed clear margins [Figure 2b]. The abdominal wall muscles (external oblique aponeurosis and IO) remained intact superficial to the lesion. On cutting the specimen, it was partially encapsulated and had a whorled appearance. The size of the specimen was 6 cm × 5 cm. Histopathological examination (HPE) examination revealed the presence of ganglion and spindle cells with prominent nuclei and basophilic cytoplasm [Figure 2c]. A diagnosis of PF was made. The patient recovered well and was discharged on the next day. On follow-up on the 7th day, on the 30th day and at 6 months, the patient was asymptomatic. At 10-month follow-up, ultrasonography of the abdomen was done which showed no evidence of lesion at the previous site. The patient was comfortable and asymptomatic.

DISCUSSION

PF is a pseudosarcomatous lesion that was first described by Chung et al. in 1975 and is included in the spectrum of benign myofibroblastic lesions which include proliferative myositis (PM) and nodular myositis. The difference between PF and PM is the site of origin. PF arises from the fascia and the fibrous septa, whereas PM arises from the skeletal muscle. The rapid growth of the lesion and similar histopathological findings the lesion is often confused with sarcomas such as rhabdomyosarcoma, liposarcoma, fibrosarcoma and low-grade myofibroblastic sarcoma. Older age of the patient, tumour limited to fascia, repeated Alk1 negativity and zonal distribution of the giant cells are features which favour the diagnosis on HPE. Rhabdomyosarcoma or ganglioneuroblastoma is ruled out by specific immunohistochemical pictures, such as Smooth Muscle Actin (SMA), desmin, myogenin, S-100 and calretinin.

PF usually occurs in adults and does not show any sex predilection. Some case reports of PF in children have also been published. The most commonly involved site is upper extremities followed by lower extremities and trunk. The lesion usually arises from the subcutaneous tissue and presents with pain over the swelling. An intra-abdominal location and presentation with low-grade persistent fever have not been reported previously in the literature. Apart from this, PF lesion larger than 5 cm is rare. In our patient, the peculiar presenting symptom was a low-grade persistent fever, the rarity of location and large size, made it imperative to differentiate this lesion from sarcoma. Complete excision in such cases is usually both diagnostic and therapeutic. Some studies have mentioned PF to be occurring as a repair reaction after minor trauma. There was a history of laparoscopic appendectomy 2 years back, and a port was placed in RIF which might have been the trigger for the formation of PF. In retrospect, excising the lesion laparoscopically resulted in avoiding any weakening of the anterior abdominal wall. An open excision would have resulted in a potential weakening of the anterior abdominal wall, resulting in a defect that might have needed some sort of bridging or reinforcement of the defect.

CONCLUSION

To the best of our knowledge, it is the largest PF lesion reported in the literature which was arising from the abdominal wall. Apart from this, its clinical presentation with a low-grade fever makes it important to differentiate
it from sarcoma. Complete excision is both diagnostic and therapeutic and leads to complete resolution of symptoms in PF.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form, the legal guardian has given his consent for images and other clinical information to be reported in the journal. The guardian understands that names and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**
Nil.

**Conflicts of interest**
There are no conflicts of interest.

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