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Arterio-Venous Malformation of Spermatic Cord Presenting as Inguino-Scrotal Swelling - A Rare Presentation

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Abstract
Arteriovenous malformation of lower urinary tract are uncommon lesions, usually presenting as scrotal masses. A case of inguino scrotal swelling attributed to presence of an arteriovenous malformation of speratic cord is described. To our knowledge this is the first reported case of an arteriovenous malformation of spermatic cord presenting with inguinoscrotal swelling.

Introduction

Arteriovenous malformations (AVMs) occur mainly in the central nervous system, although they have been described in other organs as well. AVMs rarely involve the testis or the scrotal components, presenting mainly in the form of para-testicular or intra-testicular masses[(1)]. This case reveals an uncommon clinical presentation of AVM of the spermatic cord. To our knowledge we present the first reported case of an arteriovenous malformation of spermatic cord presenting with inguinoscrotal swelling.

Case Report

A 36 year male patient presented in the emergency with painful irreducible swelling in left inguino scrotal region since 3 days. Patient had history of vomiting, but no distension of abdomen and constipation. There was no fever. On Clinical examination, Left sided irreducible swelling in inguinal region, Tender with warmth and redness over the overlying skin with no cough impulse. Testis not felt separately in the scrotum. Right sided enlarged and non tender spermatic cord present. On Per Abdomen examination, No tenderness / guarding over abdomen. No hyper peristalsis on auscultation.

X ray abdomen was normal. Scrotal Ultrasonography s/o bilateral inguino-scrotal hernia with omentum as content. Omentum shows dilated tortuous vessels with color flow on Doppler with epididymitis features. Plain Computed Tomography revealed omental fat in bilateral scrotal sac.

Due to the presence of acute irreducible inguinal swelling with clinical suspicious of irreducible hernia, decision was taken to explore the patient. On left inguinal exploration, there was firm mass of spermatic cord attached to testis which was edematous and inflamed (Fig.1). So decision was taken to excise the mass. There was no hernial sac which was confirmed by Laparotomy.

Post op patient was discharged on seventh day. The Histopathology report s/o of AV malformation of spermatic cord (Fig-2). On follow up after 4 weeks, CECT of brain, chest, abdomen and pelvis ruled out presence of associated CNS, pulmonary and hepatic AV Malformations. But patient had AV Malformation of right spermatic cord (Fig-3) which was successfully treated with angiographic embolization after 6wks.

Fig - 1

Fig - 2

Fig - 3

Discussion

AV malformations (AVMs) represent defects of the circulatory system that are generally believed to arise during embryonic or fetal development or soon after birth. The characteristics of AVMs is that arteries and veins are tangled and not connected by capillaries. The lack of capillaries allows blood travelling through these abnormal vessels to flow rapidly and under high pressure, thus preventing arterial blood from reaching the tissues leading to various degrees of ischemia and resulting pain.

Histologically, the irregular vascular spaces are lined by non proliferating and quiescent endothelial cells and are separated by fibrous stroma[(2)]. The abnormal vascular tissue within these malformations is predominantly of type 1 (arterial, venous or lymphatic) or combination of vascular types[(1)].

AVMs involving lower urinary tract are uncommon as opposed to AVMs located in the Central Nervous system (CNS). Even more rare is the cause of an AVM of the urinary tract presenting with inguinoscrotal swelling. There is a report of ejaculatory pain caused by an AVM located between prostate and seminal vesicles[(3)]. While there is only one report of a renal AVM presenting with flank pain without hematuria[(4)].

AVM of spermatic cod are benign lesion consisting of complex of tangles of enlarged arteries and veins without intervening capillaries. In the cases published so far AVMs of the scrotal components present as either recurrent testicular pain[(5)] or painless para testicular masses[(1,6-8)] or incidental findings during evaluation for infertility[(9)] or as combination of both infertility and scrotal swelling[(10)]. To our knowledge, spermatic cord AVM presenting as irreducible tender inguinoscrotal swelling has not been reported in th literature.

Scrotal AVMs appearing as masses can be detected by pelvic angiography and managed by subsequent super selective embolisation, however success is not always guaranteed[(9)], necessitating open surgical excision of the lesion.

However in our case, the patient had presented in the emergency with acute symptoms suggestive of irreducible inguinal hernia, so emergency exploration with orcidectomy was carried out. But the diagnosis of AVM of spermatic cord was made only on the basis of histopathology report.

Conclusion

AV malformation of spermatic cord is benign lesion should be considered in the etiology of otherwise in explainable irreducible inguinal swelling.

A trial of super selective angioembolisation of the lesion should be considered before one resorts to orchidectomy in non acute phase.

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