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Continuous-type splenogonadal fusion: A rare cause of scrotal swelling

[1]Ramin Melikov, [2]Adem Altunkol, [1]Fuad Quliyev, [3]Emin Mammadov, [2]Deniz Abat

[1]National Centre of Oncology, Department of Pediatric Surgery, Baku, Azerbaijan
[2]Ministry of Health, Numune Teaching and Research Hospital, Urology Clinic, Adana, Turkey
[3]National Centre of Oncology, Department of Urology, Baku, Azerbaijan

Abstract Splenogonadal fusion is a rare congenital anomaly in which an abnormal attachment found between splenic tissue and gonads or mesonephric derivatives. There are two anatomic types: continuous and discontinuous. It is commonly mistaken for testicular tumor. We report the case of a 10-year-old child in whom an inguinal mass indicated surgical exploration. The ectopic tissue was completely removed with preservation of the testis. Histopathological examination was reported as ectopic splenic tissue. Splenogonadal fusion is a benign lesion, which should be considered in the differential diagnosis of testicular masses.

Key words Splenogonadal fusion; gonad; spleen.

Corresponding Author
Adem Altunkol, M.D.
Ministry of Health, Numune Teaching and Research Hospital, Urology Clinic, Adana, Turkey
E mail: ademaltunkol@hotmail.com
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INTRODUCTION

Splenogonadal fusion was first described by Bostroem in 1883 and seen very rarely. Approximately 175 cases had been reported in literature until now and most of them are associated with cryptorchidism [1]. It is defined as connection with splenic and

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testicular tissue, and there were two different types known as continuous and discontinuous [2]. We present a patient with scrotal mass who underwent inguinal exploration for suspicion of malignancy.

CASE REPORT

A 10 year old male patient was presented in urology clinic with a left scrotal swelling. The swelling has been appeared for a week. Painless left scrotal mass was identified on physical examination. Scrotal ultrasonography (USG) revealed a well-defined, hypoechoic lesion adjacent to epididymis that measured approximately 14x7 mm. Levels of alpha fetoprotein and beta human chorionic gonadotropin were in normal range. General physical examination was normal and there were no congenital anomalies. The patient underwent inguinal exploration under general anesthesia. The mass was attached to epididymis and advanced towards to the testis (Fig. 1).

The ectopic tissue was completely removed with preservation of the testis. Histopathological examination was reported as ectopic splenic tissue without evidence of malignancy (Fig. 2).

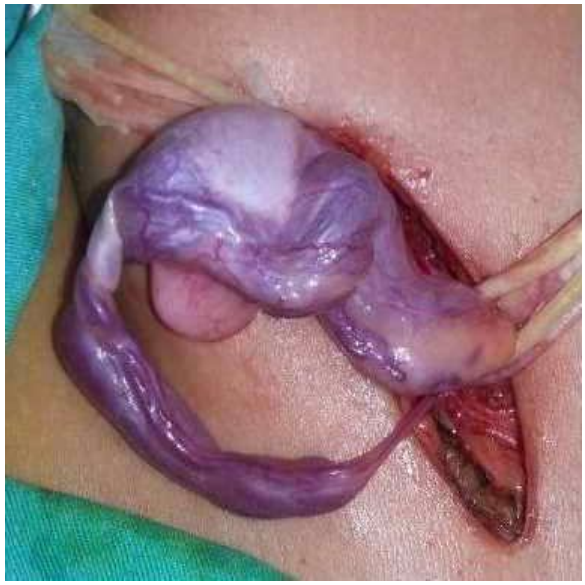

Fig. 1. Macroscopic view of the testis and splenic tissue

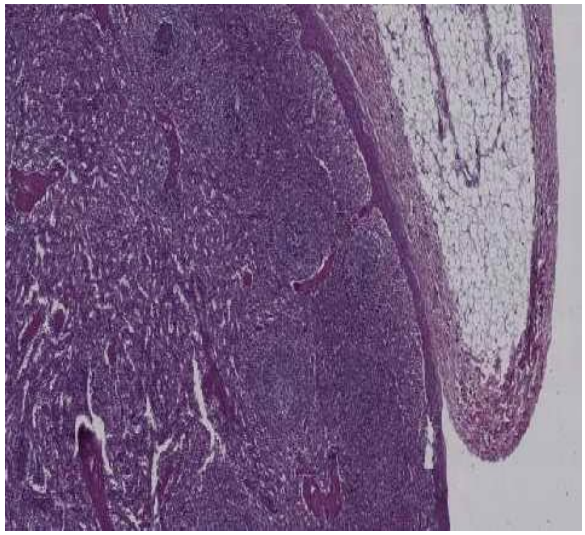

Fig. 2. Histopathologic view of the splenic tissue

DISCUSSION

Splenogonadal fusion is a rare congenital disorder. The gonad or mesonephric remnants and spleen adhesion occurs between fifth and eighth week of gestation. The fifth week of pregnancy, as the dorsal

mesogastrium rotates to the left, the splenic anlage lies in close proximity to the left gonadal ridge. Inflammation or adhesions of the peritoneal surface of the spleen possibly lead to the fusion of these primordial organs and the subsequent caudal migration [3,4]. Splenogonadal fusion seen usually in males and left side more often affected. It is usually diagnosed during inguinal exploration such as inguinal hernia, scrotal mass and testicular torsion or laparoscopic exploration for cryptorchidism [4,5]. Our case was presented with left side scrotal swelling, and patient was operated with a tumor is suspected. Splenogonadal fusion is divided into two types as continuous and discontinuous, but clinically there are no significant differences between the two types [6]. In the continuous type, the spleen adheres to the gonad by a cord-like structure that may be fibrous, totally splenic or beaded with multiple splenic nodules [7].

Diagnosis of splenogonadal fusion is made by USG, computerized tomography (CT) magnetic resonance imaging (MRI) and $^{99}TC^{m}$ spleen scintigraphy. Additionally, unnecessary orchiectomy can be avoided by intraoperative frozen section examination. [8]. Although the orchiectomy was reported, it is possible to protect the testis [6,9]. Additionally, diagnosis and management of splenogonadal fusion were also achieved by laparoscopic procedures [10].

Anomalies such as inguinal hernia, cryptorchidism micrognathia, peromelia, cleft palate and cardiac defects have been reported in association with splenogonadal fusion, but inguinal hernia and cryptorchidism are the most common [11]. The incidence of testicular tumor is reported as 1,6 per 100,000 for boys less than 15 years of age [12]. In present case, inguinal exploration was performed for suspicion of malignancy. However normal tumor markers and appearance of mass that connected to testis with fibrotic bands prevent to perform orchiectomy.

In conclusion, splenogonadal fusion is a very rare congenital disorder and it can be misdiagnosed as malignancy. Hence, splenogonadal fusion must be considered as an important differential diagnosis of testicular masses.

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