

·Letters to the Editor·

Cholesterol granuloma of the right epididymis mimicking an acute scrotum

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Dear Sir,

I am B. Spajic, the urologist from Clinical Department of Urology, Sestre Milosrdnice University Hospital, Zagreb, Croatia. Recently, we had a rare case of a cholesterol granuloma of the right epididymis at our department, showing clinical signs of acute scrotum. The case described here appears to be the second reporting cholesterol granuloma in the epididymis and the first one presenting with clinical signs of acute scrotum.

A 31-year-old patient was admitted to our clinic for the evaluation of acute pain in the right hemiscrotum. At presentation, acute scrotum was diagnosed and torsion of right testicular or epididymal appendices was suspected. During examination a severely painful nodular mass was palpable. The patient had no voiding symptoms or fever, and there were no signs of acute infection (normal white blood cell count and urinalysis). The patient's medical history was uneventful regarding tuberculosis, sarcoidosis, syphilis or fungal infections. The patient denied recent trauma or sexual intercourse. Chest roentgenogram showed no inflammatory or infiltrative process. Echosonographic finding disclosed an enlarged, hyperechoic and heterogeneous lesion of the epididymis, predominantly in the body and the head, measuring approximately 10 × 20 mm, and moderate hydrocele

(Figure 1A). The patient underwent urgent exploration of the right hemiscrotum. During surgery no testicular torsion or signs of acute epididymitis were observed, but hydrocele was found. A tumor-like induration was found in the enlarged head and body of the epididymis and total epididymectomy was easily performed. Pathohistologically, the lesion was located in the head of the epididymis and consisted of a zone of necrosis that involved ducts and interstitial connective tissue and was not associated with an acute inflammatory response. Inflammatory infiltrates were scanty and consisted of lymphocytes and macrophages. In clusters of mononuclear inflammatory cells, cholesterol crystals and giant cells of foreign body type were found (Figure 1B). The specimen was diagnosed as cholesterol granuloma of the epididymis. The values of total serum cholesterol were normal (142 mg/dL).

Cholesterol granuloma is an entity consisting of fibrogranulomatous tissue containing numerous crystals of cholesterol and foreign body giant cells [1]. Its pathogenesis is yet to be discovered. Cholesterol granuloma is occasionally found in the middle ear [1]. Nodules and masses are frequently encountered in the epididymis. Their differential diagnosis includes chronic granulomatous epididymitis, adenomatoid tumour and benign paratesticular neoplasms. Granulomatous lesions of the

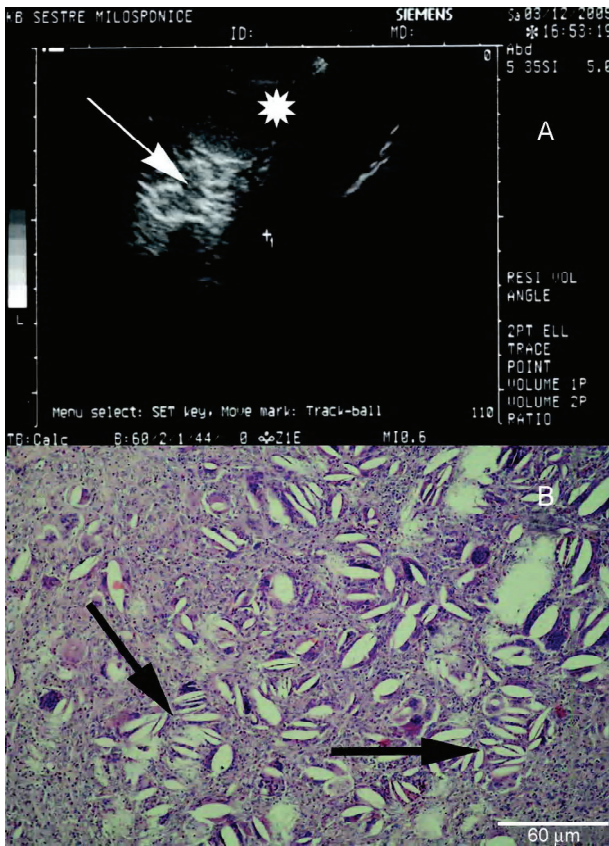


Figure 1. (A): Ultrasonographic image of the right testis (asterisk) showing inhomogeneous hyperechoic lesion of the right epididymis (arrow) and moderate symptomatic hydrocele. (B): Pathological specimen of the right epididymis showing cholesterol crystals (arrows) surrounded by foreign body giant cells, macrophages and lymphocytes (hematoxylin and eosin magnification $\times 400$).

epididymis are uncommon and mainly consist of idiopathic granulomatous epididymitis, tuberculosis and spermatic granuloma. Cholesterol granuloma is basically a result of deposits of cholesterol and subsequent foreign body reaction [1].

To our knowledge, the first case of this rare epididymal lesion was reported by Nistal *et al.* [2]. The lesion consisted of a zone of necrosis that involved efferent ducts and interstitial connective tissue and was not associated with an acute inflammatory response. Lymphocytes and macrophages were mainly located around the necrotic zone or surrounding the adjacent, well-preserved efferent ducts, whereas macrophages formed large clus-

ters in the ductal lumen. In these clusters, cholesterol crystals and giant cells of foreign body type were frequent. The same pathohistological pattern was observed in our case. Nistal *et al.* [2] propose the term “granulomatous ischemic lesion” to designate a reactive lesion of non-infectious etiology localized in the head of the epididymis. Their histological study suggests the following developmental stages of the lesion: ischemic necrosis, granulomatous reaction and sequelae. It is proposed that idiopathic granulomatous epididymitis/orchitis is an ischemic process that causes the rupture of the blood/sperm/testis barrier, resulting in granulomatous reaction as an additional lesion [3]. Obstruction and stasis of the epididymal contents with rupture and a secondary autoimmune response might also explain the cases reported in the published literature [4]. Lesions, such as cholesterol and foreign body granulomas observed in our case, were also related to obstruction secondary to dehydrated semen [2]. The differential diagnosis includes tuberculosis, sarcoidosis, syphilis, malignant lymphoma and malakoplakia. The clinical data are very important but pathological findings are essential for diagnosis [5]. The traumatic, infectious, fungal and autoimmune nature of these lesions is also described in the published literature [5]. We consider that it is important to distinguish epididymal nodules from benign inflammatory lesions and the threshold for a surgical excision should be low because it is both a diagnostic and a therapeutic procedure.

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