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Author(s)
Minagawa, Tomonori; Hirabayashi, Naoki; Furuhata, Masayuki; Sato, Tomoya; Okaneya, Toshikazu

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TWO CASES OF AN INTRASCROTAL CYSTIC MASS MIMICKING A TESTICULAR TUMOR AND REVIEW OF THE LITERATURE

Tomonori Minagawa¹, Naoki Hirabayashi¹, Masayuki Furuhata¹, Tomoya Sato¹ and Toshikazu Okaneya²
¹The Department of Urology, Saku Central Hospital
²The Department of Urology, Nagano Municipal Hospital

A 39-year-old man had a 15-year history of an enlarging, firm, nontender mass on the right side of the scrotum after perineal trauma. Right high inguinal orchiectomy was performed, and the histopathological diagnosis was chronic hematocoele. A 50-year-old man had a 2-year history of an enlarging, firm, nontender mass on the left side of the scrotum. Left high inguinal orchiectomy was performed. The histopathological diagnosis was a thick membranous hydrocele associated with chronic epididymitis. There were various clinical and histopathological similarities between the two cases. We discuss other intrascrotal cystic masses similar to our cases along with a review of the literature.

Key words: Chronic hematocoele, Cholesterol granuloma, Chronic expanding hematoma

INTRODUCTION

A firm nontender intrascrotal mass is usually diagnosed as a testicular tumor, because intrascrotal pseudotumors are uncommon. Here we report a case of chronic hematocoele and a case of thick membranous hydrocele, both of which resembled testicular tumors. These two conditions are compared clinically and pathologically, and other intrascrotal cystic masses similar to our cases are also discussed along with a review of the literature.

CASE REPORTS

Case 1

A 39-year-old man presented with a 15-year history of an enlarging, firm, nontender mass on the right side of the scrotum. He also had a history of perineal trauma during adolescence. The mass was asymptomatic, except for local discomfort caused by its size. Physical examination revealed that the right side of the scrotum was occupied by a firm nontender mass, which was more than 15 cm in diameter. The bilateral spermatic cords and the left testis were palpable, but the right testis could not be detected. Blood levels of markers for testicular tumors were within the normal range. Sonography revealed a round mass comprising two separate components of different echogenicities. The sonographic appearance suggested that the mass contained both fluid and a precipitate. Computed tomography revealed a cystic scrotal mass covered by a thick membrane and right testis compressed by the cystic mass. Right high inguinal orchiectomy was performed, since it was difficult to exclude a testicular tumor. On macroscopic examination, the resected mass was

Fig. 1. (A) Case 1: the mass was encapsulated within the tunica vaginalis by a fibrous membrane and contained fluid resembling chocolate sauce. (B) Case 2: the mass was encapsulated within the tunica vaginalis by a fibrous membrane and contained clear yellow fluid.
Fig. 2. (A) Case 1: the tunica vaginalis was thickened and composed of hypocellular fibrous tissue with cholesterol clefts. (B) Case 2: the tunica vaginalis was thickened and also composed of hypocellular fibrous tissue with cholesterol clefts.

encapsulated within the tunica vaginalis by a fibrous membrane and contained fluid resembling chocolate sauce (Fig. 1A). A grossly normal, but compressed, testis was located at the lower pole of the mass. Microscopy revealed that the tunica vaginalis was thickened, being composed of hypocellular fibrous tissue that contained collections of amorphous eosinophilic material and cholesterol clefts (Fig. 2A). The pathological diagnosis was chronic hematocele. The remaining testis was normal.

Case 2
A 50-year-old man presented with a 2-year history of an enlarging, firm, nontender mass on the left side of the scrotum. He has no history of perineal trauma or acute epididymitis. The scrotal swelling was detected by a routine physical examination when he was hospitalized for surgery on the palate. The mass was firm and measured 6 cm in diameter. The bilateral spermatic cords were palpable, as was the right testis, but the left testis could not be detected. Blood levels of markers for testicular tumors were within the normal range. Sonography revealed a hypechoic mass in the scrotum. Computed tomography showed a cystic scrotal mass covered with a thick membrane and did not reveal the left testis. We performed left high inguinal orchiectomy because we could not exclude the possibility of a testicular tumor. Macroscopically, the resected mass was encapsulated within the tunica vaginalis and was surrounded by a thick membrane, while the cyst contained clear yellow fluid (Fig. 1B). Microscopy revealed that the tunica vaginalis was thickened and composed of hypocellular fibrous tissue with cholesterol clefts (Fig. 2B). There was also evidence of mild chronic epididymitis. Accordingly, the pathological diagnosis was hydrocele with mild chronic epididymitis.

DISCUSSION
Chronic hematocele is defined as a collection of blood that lies between the lamina visceralis and the lamina parietalis of the tunica vaginalis. On the other hand, chronic expanding hematoma can occur at many locations, including the chest, abdomen, thigh, and scrotum, and these lesions often resemble neoplasms. Chronic expanding hematomas have a fibrous capsule surrounding old blood clots and the capsule arises from a strong membrane or fascia, such as the pleura, peritoneum, tensor fascia lata, or tunica vaginalis. On histopathological examination, cholesterol crystals can be found embedded in the walls of the hematoma. Chronic expanding hematoma is characterized by its persistence and continues to enlarge for more than one month after the initial episode of hemorrhage due to trauma or surgery. The mechanism underlying the expansion of such hematomas is still unclear. Lavadie et al. have proposed that breakdown products derived from erythrocytes, hemoglobin, leukocytes, and other blood components induce mild inflammation that leads to increased vascular permeability, resulting in intermittent bleeding from dilated microvessels beneath the fibrous capsule. Fredlander et al. attributed continued expansion of the hematoma to an increase in the osmotic pressure gradient due to the breakdown of blood products comprising the lesion. However, the threshold at which expansion commences is still unknown. A chronic expanding intrascrotal hematoma was previously reported only by Reid et al., whereas, chronic hematocele is often reported. Chronic hematocele resembles chronic expanding hematoma in clinical course and pathological findings. Therefore, these two entities might be considered as variants of the same condition.

The hydrocele of our case 2 was unusual and mimicked a testicular tumor. Lowental et al. previously reported a cholesterol granuloma of the tunica vaginalis, which was similar to our case 2 both clinically and histopathologically. Cholesterol granuloma of the tunica vaginalis is a very rare inflammatory condition and cystic lesion containing yellowish clear fluid. Cholesterol granuloma is also occasionally found in the middle ear. It is composed of fibrogranulomatous tissue that contains numerous cholesterol crystals and foreign body giant cells. In our case 2, giant cells were not seen. However, giant cells...
are not specific findings for cholesterol granuloma. A thick membranous hydrocele as in our case 2 might be the same condition as cholesterol granuloma.

The clinical course and the pathological features of our case 1 are similar to those of case 2 and cholesterol granuloma. However, the lesion in case 1 contained old blood clots, while that in case 2 contained clear yellowish fluid. The lesion of our case 2 may have been associated with infection because of the presence of mild chronic epididymitis. Despite the possible difference of etiology, i.e., trauma or infection, cases 1 and 2 were very similar in terms of their clinical course and pathological features, with chronic inflammation being an essential feature in both patients.

In conclusion, chronic hematocele as in our case 1, thick membranous hydrocele as in our case 2, cholesterol granuloma of the tunica vaginalis, and chronic expanding hematoma of tunica vaginalis are similar in clinical course and histopathological findings. Due to the rarity of each entity, their clinicopathological features have not yet been fully clarified, but they can all be considered as variants of the same condition with a different etiology.

In the literature, only high inguinal orchietomy was performed in the patients with an intrascrotal cystic mass as in our cases because it was difficult to exclude a testicular tumor preoperatively. Tumor resection without orchietomy or with partial orchietomy has not been reported. A differential diagnosis can be made from malignant mesothelioma of tunica vaginalis testis clinically and radiologically. Malignant mesothelioma is often diagnosed as hydrocele preoperatively due to the cystic change and is similar to our case 2. It is difficult to distinguish malignant mesothelioma of the tunica vaginalis from other benign cystic masses as in our cases preoperatively, but malignant mesothelioma of tunica vaginalis testis grows rapidly. Slow growth as in our cases can be one finding for suspecting a benign lesion. In such cases, tumor resection without orchietomy after intraoperative pathological diagnosis can be a treatment option. In our cases, high inguinal orchietomy was performed, but retrospectively it could have been possible to spare the testis.

REFERENCES

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和文抄録

精巣腫瘍と鑑別が困難であった陰囊内囊胞性腫瘤の2例と
その類縁疾患に関する文献的考察

皆川 倫範*, 平林 直樹1, 古畑 慎之1
佐藤 智哉1, 岡根谷利一2
1佐久総合病院泌尿器科, 2長野市民病院泌尿器科

症例1：39歳, 男性。15年前から徐徐に增大したが
放置した。2004年5月に当院を受診した。腫瘍は縦
15 cmで両側精管と左精巣を触れるが右精巣を触れな
い。腫瘍マーカーは正常範囲内であった。CTでは造
影効果を認めない陰囊内囊胞性変変を認めた。右高
位精巣摘除術を施行した。手術では腫瘍の剝離は容易
であった。摘出標本は厚い被膜に覆われた囊胞性変変
で中身はチョコレートソース様の液体で満たされてい
た。病理診断は囊胞性変変であった。症例2：50歳,
男性。2年前から徐徐に陰囊内容が增大したが放置し
た。2004年, 当科を受診した。腫瘍は6 cmほどで両
側の精管をぶれ右の精巣も触れが左の精巣をぶれな
い。腫瘤マーカーは正常範囲内であった。CTでは造
影効果を認めない陰囊内囊胞性変変を認めた。左高
位精巣摘除術を施行した。手術では腫瘍の剝離は容易
であった。摘出標本は厚い被膜に覆われた囊胞性変変
で中身は透明な黄色の液体で満たされていた。病理診
断は囊胞性上皮炎と壁肥厚を伴った陰囊水腫であっ
た。われわれは精巣腫瘤と鑑別が困難な外傷性の陳旧
性血腫と壁肥厚を伴った陰囊水腫を経験した。それら
を臨床的・病理組織学的に比較し、それらの類縁と思
われる疾患について文献的に考察した。

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* 現：長野市民病院泌尿器科