

Case Report

Adenomatoid tumor: Cytological diagnosis of two cases

ABSTRACT

Adenomatoid tumor is a benign neoplasm of mesothelial cell origin that occurs in both male and female genital tracts. Fine needle aspiration cytology has an important role in the preoperative diagnosis of the male genital adenomatoid tumor and is a rapid, reliable, conclusive, and cost-effective diagnostic tool that can be used to take appropriate surgical decisions. Pathologists should be aware of the cytological features of such lesions so as to avoid diagnostic pitfalls. We present here two cases, one in the testis and another in the epididymis in a 35 year-old and a 30 year-old male respectively, which were diagnosed by fine needle aspiration cytology and later confirmed by histopathology. We present the cytological features and histopathological correlation of these cases.

Key words: Adenomatoid tumor; epididymis; FNAC; testis.

Introduction

Adenomatoid tumor (AT) in the male genital tract is a relatively rare, benign tumor arising from mesothelial cells.^[1] It is more common in the epididymis than in the testis. Fine needle aspiration cytology (FNAC) plays a very important role in preoperative diagnosis of adenomatoid tumors. It is a more rapid, reliable, conclusive tool that helps to plan the surgical approach. We present here a case of a testicular adenomatoid tumor in a 35 year-old male and another case of an epididymal adenomatoid tumor in a 30 year-old male, both being diagnosed with the aid of FNAC preoperatively, the diagnoses later confirmed by histopathology.

Case Reports

Case 1

A 35 year-old male presented with a right-sided, scrotal swelling of three days' duration associated with acute scrotal pain of increasing severity. His past medical history was not significant and there was no history of trauma. Clinical examination revealed an enlarged, firm, tender nodule, three cm in diameter, while the contralateral testis was normal. A clinical diagnosis of torsion testis/testicular neoplasm was made. All routine investigations gave normal results. An emergency scrotal ultrasonography (USG) revealed a 2.5

cm, single, ovoid, well-defined, hypoechoic, solitary mass in the right testis. Guided aspiration was done under local anesthesia using a 10 mL syringe and a 24 gauge needle to obtain a scanty, grey-white aspirate. The smears were stained with hematoxylin-eosin (H and E), Papanicolaou, and May-Grünwald-Giemsa (MGG) stains. The smears were moderately cellular, consisting of tumor cells arranged in sheets and clusters. The cells were round to oval, having eccentric, vesicular nuclei with a fine granular chromatin along with a pale/vacuolated cytoplasm [Figure 1]. A cytological diagnosis of adenomatoid tumor was made. The patient underwent orchidectomy as the mass was firmly adherent to the tunica albuginea making conservative surgery unfeasible. The specimen showed the testis with a well circumscribed, encapsulated mass measuring 2.5x2 cm [Figure 2] and its cut section was gray white. Histopathological examination (HPE) showed cuboidal to flat epithelial cells in solid cords, some lining the cystic spaces. Some of these epithelial cells showed prominent cytoplasmic vacuolation. Intervening stroma showed fibrocollagenous tissue with sparse lymphocytic infiltrates [Figure 3]. These features were consistent with those of an adenomatoid tumor.

Case 2

A 30 year-old male presented with a right-sided, tender scrotal swelling of four days' duration. He had no significant past

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DOI: 10.4103/0970-9371.54865

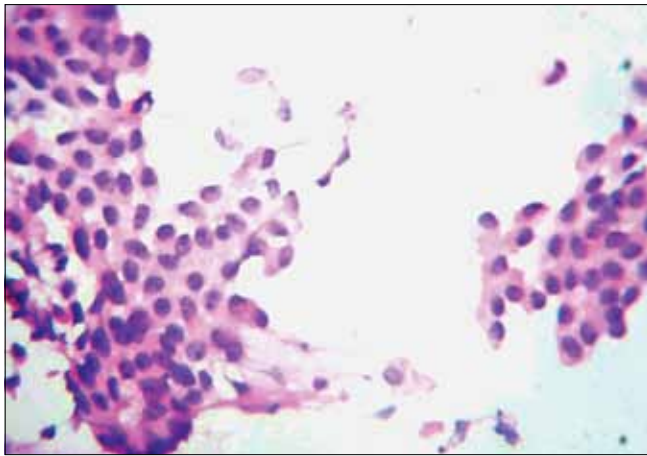


Figure 1: Microphotograph of FNAC smear showing monolayered sheets of cells with indistinct cell borders and pale vacuolated cytoplasm (H and E, x400)



Figure 2: Gross photograph of adenomatoid tumor showing testis with well encapsulated tumor having grey-white cut-surface

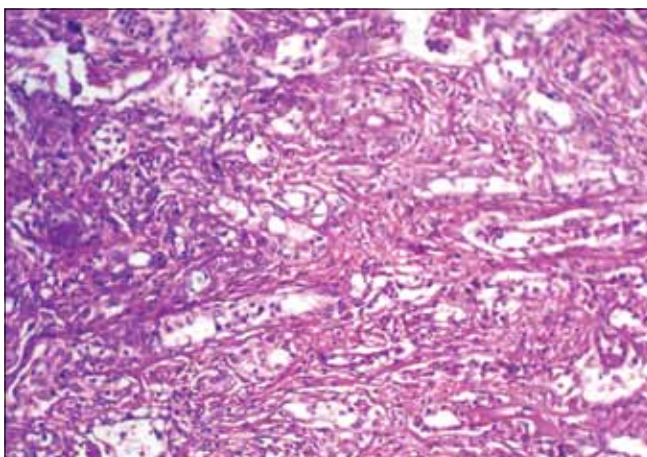


Figure 3: Microphotograph showing histopathological features of adenomatoid tumor consisting of dilated tubular structures lined by epithelial cells (H and E, x100)

medical history or history of trauma. On local examination, a firm, mobile, and tender mass measuring 2×2 cm was found; the contralateral testis was normal. A clinical diagnosis of

tuberculous epididymitis or testicular neoplasm was made. Routine hematological and biochemical investigations, urine analysis, and a chest radiograph revealed no abnormalities. USG of the scrotum showed a well defined, hypoechoic mass measuring 2.5×2 cm in the region of the globus major of the right epididymis. Aspiration was done using a 10 mL syringe and a 24 gauge needle to yield a scanty, grey-white aspirate. The smears were stained with H and E, Papanicolaou, and MGG stains. The cytological features were similar as those of case 1 and a diagnosis of an adenomatoid tumor was made. The patient underwent a conservative testis-sparing surgery with the excision of the epididymal nodule. The nodule measured 2×2 cm and the cut section was grey-white with microcysts. The results of the histopathological investigation were consistent with features of an AT.

Discussion

Adenomatoid tumor is a benign neoplasm that occurs in the male genital tract.^[1] The term was first coined by Godman and Ash in 1945.^[2] It is common in the third and fourth decades of life. Although epididymis remains the most common site of involvement, constituting 30% of paratesticular neoplasms; rarely does AT occur in the testis.^[1,3] The histogenesis has been argued for years with the proposed cells of origin being endothelial, mesothelial, mesonephric, mullerian, and epithelial. Evidence suggests mesothelial origin whereas the usual coexistence of chronic inflammatory cells and fibrosis suggests mesothelial hyperplasia.^[1]

The initial cytological descriptions of AT were described by Perez-Guillemro *et al.*^[4] and are identical to the cytological features noted here for both the cases. Cytological differential diagnoses of AT include the reactive mesothelial hyperplasia, papillary cyst adenoma, spermatic granuloma, malignant mesothelioma, and adenocarcinoma.^[5]

Reactive hyperplasias are associated with hydrocele and unlike ATs, do not have a definitive cytological arrangement. Papillary cystadenomas show papillary structures without nuclear atypia in a mucoid background.^[5] Spermatic granulomas have spermiophages in a dirty background, whereas tuberculous epididymitis consists of epithelioid granulomas and Langhan's type giant cells in a necrotic background which can be confirmed by Zeihl Neelsen's stain and culture.^[5] Chronic epididymitis mimics AT and a definitive diagnosis depends on a combination of clinical examination, imaging studies, and cytomorphological features.^[5] Unlike AT, mesotheliomas show nuclear enlargement, macronucleoli, and multinucleation, whereas metastatic adenocarcinomas have cytological features of malignancy and show mucicarmine positivity.^[5]

Benign Sertoli cell tumors, not otherwise specified (NOS) and sclerosing sertoli cell tumors (SSCT) are rarely considered for differential diagnosis.^[6] Terayema *et al.*^[7] suggested that coffee-bean nuclei and nuclear indentations be made the diagnostic criteria for Sertoli cell tumor (NOS). However, the presence of monolayered sheets and the lack of the characteristic nuclear features favor a diagnosis of AT over SSCT.

USG findings along with cytological features help to evolve an organ-sparing surgical approach as noted in case 2.^[8] USG-guided aspiration cytology with immediate surgery including the excision of needle track can follow if malignancy is detected. This is because a delayed diagnosis of malignancy is more harmful than the hypothetical risk of tumor spread by aspiration cytology.^[9,10]

Hence, these cases have been presented to highlight the importance of FNAC in the preoperative diagnosis of adenomatoid tumors, which can help to plan surgery as complete excision of the benign tumor gives good prognosis without recurrence. Also, we report here testicular AT, which is a relatively rare site.

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Source of Support: Nil, **Conflict of Interest:** None declared.

