



Case Report:

Benign Intratesticular Epidermoid Cyst of the Testis: Diagnostic Dilemma

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Abstract: Intratesticular epidermoid cysts of the testis are rare benign lesions, comprising about 1-2% of all the testicular neoplasms. Clinically it may not be differentiated reliably from the most common malignant testicular tumours and poses a diagnostic dilemma. Majority of the testicular tumours are malignant one, hence accurate diagnosis in benign lesions such as epidermoid cyst is always warranted to avoid unnecessary invasive procedures like orchidectomy. Herein, we present a case of benign, intratesticular epidermoid cyst of the testis in a 30 years old male treated by conservative approach with testicular preservation, avoiding unnecessary orchidectomy.

Key Words: Epidermoid cyst; Testis; Testicular neoplasms

Introduction:

Intratesticular epidermoid cyst of the testis are uncommon benign lesions and account for 1-2% of all testicular tumours. (1) Generally most the patients presents with a painless nodule the testis. (2) The histogenesis of epidermoid cyst is not completely understood. (2) It cannot be differentiated reliably from the more common malignant testicular mass on clinical examination. Organ preserving surgery has been preferred now a days over the traditional inguinal orchidectomy. (1,2) Accurate diagnosis of such benign lesions always warranted to avoid unnecessary surgical intervention such as orchidectomy.

Herein, we report a case of 30 years old male presented with right testicular swelling. On excisional biopsy of the lesion, intratesticular epidermoid cyst of the testis was diagnosed. We report this case in view of its unusual and rare nature with various treatment modalities.

Case Report:

A 30 years old male presented to the surgical OPD with a painless right testicular swelling since 3 months. There was no past history of trauma, infection, vasectomy, testicular

surgery or urinary tract infection. Physical examination of the patient revealed an enlarged right testis without evidence of lymphadenopathy or gynaecomastia. On local examination an irregular hard mass measuring 4cm was found on the lower pole of right testis and the right spermatic cord was found to be normal. On investigations, all the haematological, serological and biochemical parameters including tumour markers (AFP and Beta-HCG) were within normal limits. Ultrasound (USG) examination revealed well circumscribed, 4cm mass with concentric rings of hypoechogenicity and hyperechogenicity. With the help of USG and clinical examination, the patient underwent complete enucleation of the mass through inguinal incision and specimen was sent for histopathology. Post operative period was uneventful.

Gross examination: The specimen was a well circumscribed cystic mass measuring 3.5x2.5x1.5 cms. External surface was grey white, circumscribed and well encapsulated with congested blood vessels. On cut section, the cystic mass noted, filled with whitish pale, friable paste like material (Figure 1).

Light microscopy: Serial sections from the cystic mass revealed a cyst lined by attenuated stratified keratinizing squamous epithelium. The wall of the cyst composed of fibrocollagenous tissue with sparse mononuclear cell infiltration. Lumen of the cyst was filled with abundant keratinous material with laminated keratin flakes (Figure 2, 3). On serial sections there were no teratomatous elements or dermal adnexal structures such as sebaceous gland or hair follicle. The adjacent tiny areas showed testicular parenchyma with compressed architecture with atrophic change (Figure 4). The final histopathological diagnosis was given as benign intratesticular epidermoid cyst. After 6 months of follow up, the patient was stable without recurrence of lesion.



Figure 1: Gross appearance of the epidermoid cyst filled with whitish pale, friable paste like material.

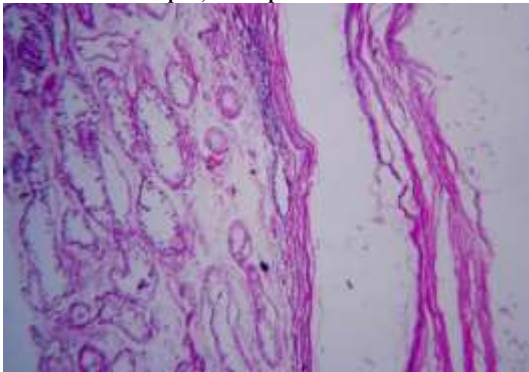


Figure 2: Photomicrograph showed transition between testicular tissue and adjacent cyst with squamous lining and abundant keratinous material in its lumina (H&E, x40)

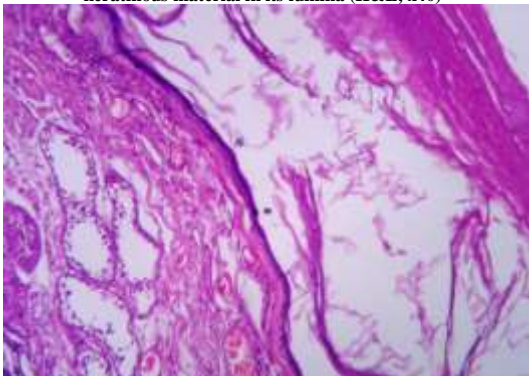


Figure 3: Photomicrograph showed testicular parenchyma with compressed architecture with atrophic change along with cyst contents (H&E, x100)



Figure 4: Lumen of the cyst was filled with abundant keratinous material with laminated keratin flakes (H&E, x100).

Discussion:

Epidermoid cysts are benign lesions that often located in the skin and very rarely in intratesticular region. At the histological level, they are composed of the same characteristics as there of the skin location.(2)

Intratesticular epidermoid cysts of the testis are uncommon benign tumours account for 1-2% all testicular lesions.(3) Since their first report by Dockerty and Pristly in 1942, more than 300 cases have been reported in the literature.(4) Most of the patients are asymptomatic clinically and discover a solitary, firm, nontender testicular mass during self examination or routine physical examination. Tumour markers such as AFP and Beta-HCG are negative.(1,2,5)

The histogenesis of epidermal cysts has not been completely elucidated; however the prevailing hypothesis is that of germ cell origin developing along the line of epidermal differentiation as a monodermal expression of teratoma.(6) Other theories have been postulated, such as squamous metaplasia of seminiferous epithelium, metaplasia of the rete testis and inclusion of epidermal cyst.(6) Pathologically, an epidermoid cyst is typically a round to oval encapsulated lesion. The lumen contains squamous epithelium and keratin debris that may vary from complex fluid to thick, paste like material.(6,7) The wall is composed of fibrous tissue that may be calcified.(6,7) In 1969, Price established the histopathological criteria in diagnosing the testicular epidermoid cyst.(8,9):

1. The cyst should be in the testis parenchyma.
2. Lumen should include keratin
3. The cyst wall composed of fibrous tissue should be lined with squamous epithelium.
4. There should be no teratomatous element, skin appendages or scar tissue in the cyst or neighbouring parenchyma of the testis.
5. Lipogranulomatous inflammatory reaction including focal calcification areas can be observed.
6. The cyst wall should be away from tunica albuginea.

The findings in our case were consistent with the criteria. Histopathological differentiation of benign epidermoid cyst from dermoid cyst or teratoma is always warranted in view of their malignant potential.(10)

The definite preoperative diagnosis of testicular epidermoid cyst is not always possible. Ultrasonographically it is separated from testicular parenchyma by sharp margin and observed as hypoechogenic or hyperechogenic concentric rings surrounding the echogenic center.(10) Orchidectomy is an adequate and preferred treatment method for adults. However, now a days organ preserving surgery (testis preserving) is performed in prepubertal and young patients.(10)

Conclusion:

Intratesticular epidermoid cyst is a histopathological diagnosis. Epidermoid cysts of the testis are benign, rare lesions with no metastatic potential. When the preoperative USG findings suggest an epidermoid cyst and intraoperative frozen section confirm this, conservative (testis sparing) surgery may be preferable to an orchidectomy. However radical surgery is required in adults, particularly if there is suspicious of malignancy because whole cyst should be examined with extensive sampling in such cases. To summarize, histopathological diagnosis is the gold standard for diagnosis of intratesticular epidermoid cyst as the treatment modalities differs.

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