

Case Report

A rare case of mature teratoma of testis in 55 years old male patient

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Abstract

Testicular neoplasms are common cause of morbidity in both pediatric age group as well as adult. In testicular teratomas various types of tissues are present which represent the different germ layers (endoderm, mesoderm and ectoderm). Typically they appear at any age, but are usually much more common in pediatric patients, where they comprise up to 30% of all tumors. In most of the reports, mature testicular teratomas likely to be diagnosed in a younger age group. Here, we report a mature testicular teratoma of the testis in a 55-year-old man which was quite rare especially in old age.

Key words

Testicular teratoma, Neoplasms, Mature, Morbidity.

Introduction

In men testicular cancer is the most common malignant neoplasm and incidence rate is approximately 1% of all neoplasia. Furthermore it is usually present in males aged between 20 to 35 years. In testicular teratomas various types of tissues are present which represent the different germ layers (endoderm, mesoderm and ectoderm). Typically they appear at any age, but are usually much more common in pediatric patients, where they comprise up to 30% of all tumors. In adults the prevalence rate is much

less, representing only 7% of all testicular germ cell tumors [1]. Depending on their histological components Testicular teratomas are having different variants. In most of the reports, mature testicular teratomas likely to be diagnosed in a younger age group. Here, we report a mature testicular teratoma of the testis in a 55-year-old man which was quite rare especially in old age.

Case report

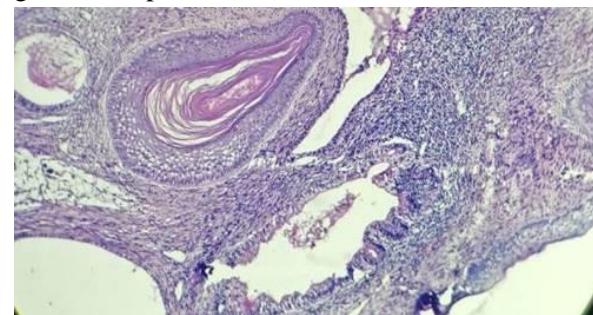
55 years old male patient came to surgery OPD with chief complain of right testicular mass of 4

months duration. There was no past history of trauma or infection. On local examination, the testicular mass was non-tender, smooth surfaced and having soft cystic to firm in consistency. Left testis was normal on examination. All Haematological, serological and biochemical investigations were normal. CT scan findings showed well demarcated mass lesion involving right testis measuring 72× 55 mm in size. Serum alpha fetoprotein, human chorionic gonadotrophin levels were within normal limits. Subsequently, the patient underwent right inguinal orchidectomy. The specimen of right orchidectomy was sent to the pathology department for histopathological examination. On macroscopic examination, the testicular mass measured 8.5cm x 6cm x 4.5cm. Spermatic cord measures 5 x 1.4 cm. On cut section, there was total replacement of testicular architecture by a neoplastic tissue (**Photograph – 1**). On microscopic examination there was presence of stratified squamous epithelial lining of skin, hair follicles and luminal lamellar keratin. There was also presence of extensive cartilaginous and glandular tissues with few areas of neural tissues (**Photograph - 2, 3, 4**). Serial sectioning and meticulous evaluation did not reveal any immature tissue, any other germ cell components or foci of intratubular germ cell neoplasia (ITGCNU). No cytologic atypia or apparent mitotic activity was evident. Based on all these findings a diagnosis of mature teratoma of the right testis was made.

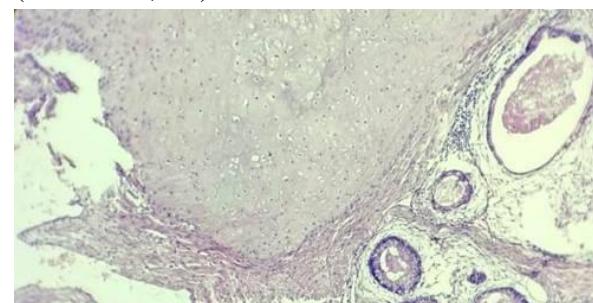
Photograph – 1: Cut surface of testicular mass.



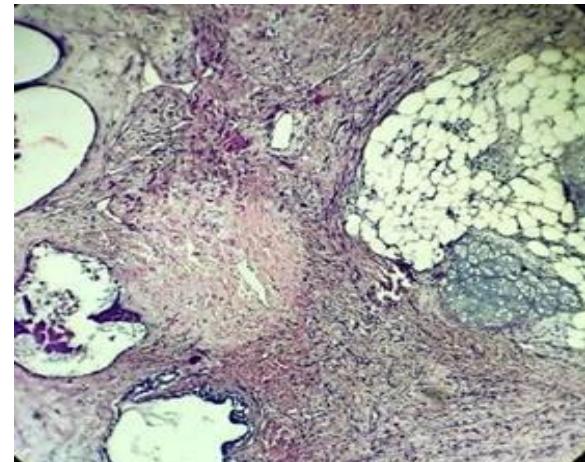
Photograph – 2: Stratified squamous and glandular epithelium (H&E stain, 4X).



Photograph – 3: Mature cartilaginous tissue (H&E stain, 4X).



Photograph – 4: Mature adipose and mature cartilaginous tissue (H&E stain, 4X).



Discussion

Testicular neoplasms are common cause of morbidity in both pediatric age group as well as adult. Germ cell tumors (GCT) are very important as they have varied prognosis. In general histologically germ cell tumors (GCT) of the testis can be classified into two main sub groups. They are seminomatous and non-seminomatous. On histological examination non-seminomatous GCT include embryonal cell

carcinoma, yolk sac tumor, choriocarcinoma and teratoma. In most of the cases, more than one histological pattern is seen; the most common combination is the finding of embryonal carcinoma, yolk sac tumor and teratoma [2].

Teratomas are the tumors in which several types of tissue are present representing different germinal layers (endoderm, mesoderm and ectoderm). They represent 38% of testicular germ cell tumors in infants and children and 47% in adults [3]. It has a symmetric distribution as regards laterality, with some cases of synchronous bilateral involvement [4]. Its association with a history of previous ipsilateral cryptorchidism has been described in up to 7% of patients. In the literature, prepubertal mature teratoma of the testis is described as an entirely benign tumor without retroperitoneal or visceral involvement. In our case the age of presentation was old age which was quite rare.

Testicular teratomas are classified into four subtypes according to their histological composition:

1) Mature: (5-10%) Composed exclusively of well-differentiated mature somatic tissues. They typically contain structures derived from the three germ layers. Histologically their appearance is similar to the adult tissues, an increase in cellularity, slight to moderate cytologic atypia and occasional mitotic activity in both the mesenchymal and epithelial tissues is present in few cases; however, they do not justify their classification as immature [5].

2) Immature: (20-30%) immature teratoma has presence of tissues which cannot be recognised as normal adult elements. There is presence of incompletely differentiated or embryonic elements, as well as variable amounts of mature elements. Foetal neuroectodermal elements, embryonic mucous glands, cartilage and immature mesenchymal elements are common components.

3) With malignant areas: In these teratomas there is overgrowth of a second non-germ cell malignant neoplasm, i.e. a sarcoma (rhabdomyosarcoma, chondrosarcomas), carcinoma (adenocarcinoma and epidermoid

carcinoma) or both. The patient's prognosis remains the same, but if the metastases contain carcinoma or sarcoma derived from the teratoma, the prognosis is unfavourable.

4) Monodermal variants:

a. Carcinoid: Rare (0.17%). Characteristics identical to those of carcinoid tumors of other locations. Three quarters appear in pure testicular form, the remainder within teratomas. Most have benign behaviour, with metastasis appearing in less than 10% of cases [6].

b. Primitive Neuroectodermal Tumour (PNET): Its presence in the pure form is extremely rare; most have a minimum component of mixed germinal tumours [6].

c. Other monodermal teratomas.

In our case microscopic examination reveals mature teratoma. Mature teratoma is a common component of mixed GCTs. However, its pure form is rare and constitutes only 2% to 3% of all testicular GCTs. In the differential diagnosis we can include benign lesions such as epidermal cyst, simple cyst, and malignant tumors of the testis with secondary degenerative changes [4].

Mature teratoma of testis shows predominance of one or more cysts lined by keratinizing squamous epithelium with skin appendages, with or without small areas of other teratomatous elements [7]. The tumor markers (α -fetoprotein and β -human chorionic gonadotrophin) done to access presence of other germ cell neoplastic components are negative in a dermoid cyst as was seen in our case. If mature teratoma occurs in young age than we should perform the testis sparing surgery such as enucleation to conserve testis.

Conclusion

Although radiological investigations are non-invasive and highly sensitive method to diagnose mature teratoma, histopathological examination remains gold standard method for final confirmation.

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