

Juvenile Granulosa Cell Tumor - A Rare Neoplasm in Newborns

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Introduction

Juvenile granulosa cell tumor of the testis (JGCT) is a rare tumor although it is the one of the most common neoplasms of the infantile testis [1]. We here present an additional case of 5 months-old male with JGCT of testis.

Case

At physical examination revealed a hard, mobile and painless mass suspicious for malignancy in his right testis. Serum AFP levels are within normal limits. Testicular ultrasonography revealed a right testicular mass of 1.7 × 1.1 cm diameters and regular lobulated borders.

After orchiectomy, the gross examination revealed a 2.8 × 1.8 × 1.5 cm testis with a white-grey, glistening lesion. It had an uninterrupted capsule which separated the mass from normal testis parenchyma (Figure 1). Microscopically, the tumor was composed of a prominent solid pattern with few cystic follicles (Figure 2).

The follicles were lined by several cell layers; the inner cells having oval or round nuclei and eosinophilic cytoplasm whereas the outer had with spindle nuclei and scanty cytoplasm (Figure 3). A high mitotic rate was observed (Figure 4).

Immunohistochemical stains were positive for inhibin, alpha-1 antitrypsin, CD99 and were negative for AFP in tumor cells (Figure 5). Also, Ki 67 immunostaining of tumor with a high proliferative rate (Figure 5). The tumor was diagnosed as juvenile granulosa cell tumor of the testis.

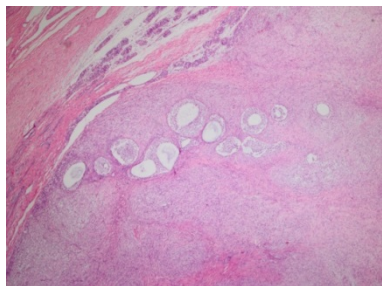


Figure 1: Tumor had an uninterrupted capsule which separated the mass from normal testis parenchyma (H&E x40).

Discussion

Juvenile granulosa cell tumor is very rare with an incidence 1-2% of prepubertal testicular tumors [2]. It is considered as a benign neoplasm because no metastasis has been reported. Histopathological diagnosis is may be difficult, because yolk sac tumor, the better known tumor of young children, may present similar features. Contrary to USG images and gross examination, laboratory findings and immunohistochemical investigations are necessary to individuate between these tumors.

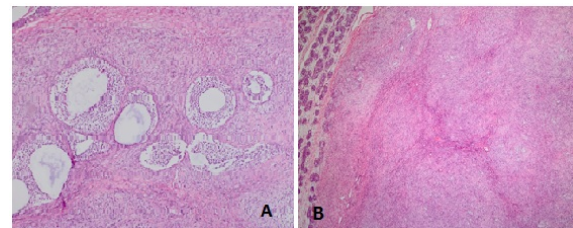


Figure 2: The tumor was composed of a prominent solid pattern with few cystic follicles (H&E x40) (H&E x100).

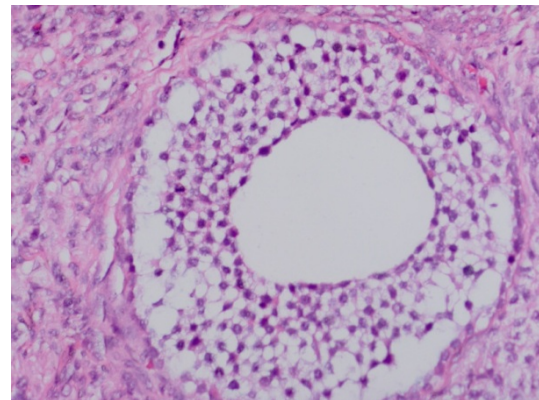


Figure 3: The view of follicles showing outer and inner cell layers (H&E x400).

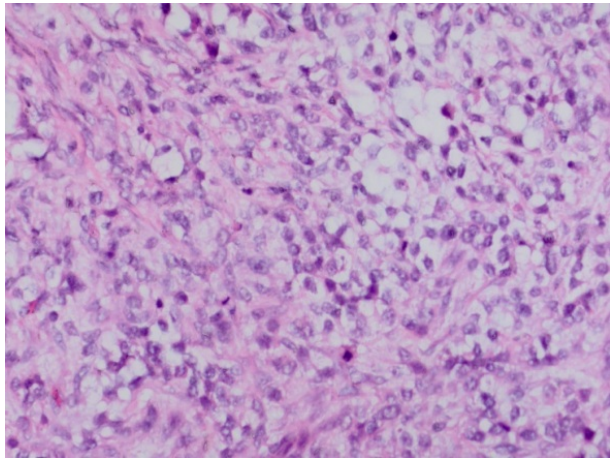


Figure 4: The tumor cells have high mitotic rate (H&E x400).

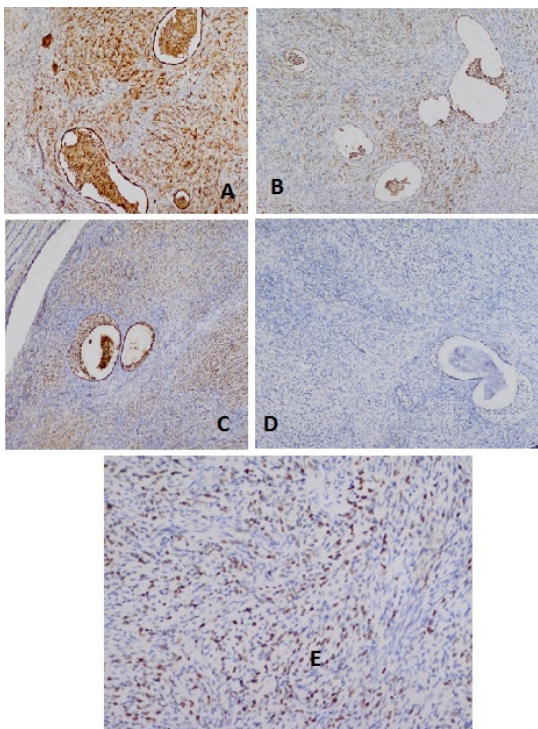


Figure 5: Immunohistochemical stains for various proteins within the tumors and their expression (A: Inhibin, B: Alpha-1 Antitrypsin, C: CD99, D: AFP, E: Ki-67, respectively).

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