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Adult testicular granulosa cell tumour: A rare case report

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ABSTRACT

Adult Granulosa cell tumours (AGT) are a rarely reported subtype of testicular cancer with an unpredictable clinical course. We report the case of a 45 year old man who was diagnosed with a 15mm testicular adult granulosa cell tumour with no metastatic disease at presentation. A radical inguinal orchidectomy was performed with histology demonstrating no invasion of the tunica vaginalis, epididymis, spermatic cord and no lymphovascular invasion. No further treatment was undertaken due to good prognostic factors. A follow up CT Thorax, Abdomen, Pelvis at 4 months demonstrated no disease progression.

1. Introduction

Granulosa cell tumours (GCTs) of the adult testes are exceedingly rare originating from the epithelial component of the sex cord.[1] Testicular (t)GCTs can be subdivided into the juvenile and adult type. Juvenile GCTs are commonly congenital and follow a benign pattern of behaviour. The adult subtype are, by comparison, rare and follow a less predictable clinical course. Adult tGCTs appear to be slow growing, primary tumours and have demonstrated the potential to metastasise years following initial diagnosis and treatment with radical orchidectomy.[2,3] It is for this reason that these men require prolonged follow up. Due to the rarity of this disease and it's unpredictable clinical course, there are no evidence based guidelines available to guide clinicians in the management and long term surveillance of these men.

2. Case report

A 45 year old man was referred from the community with a 4 month history of right testicular pain. An ultrasound (US) testes performed demonstrated a 15 x 15 x 10mm, heterogenous, hypoechoic, well circumscribed right intra-testicular mass as seen in Fig. 1. Serum levels of alpha fetoprotein (aFP), lactate dehydrogenase (LDH) and beta HCG were within normal limits. A computed tomography (CT) scan of the thorax, abdomen and pelvis (TAP) demonstrated small nodules in the left lung and a small thyroid lesion, both determined not to be indicative of metastatic disease. A right inguinal radical orchidectomy was performed.

Macroscopically the specimen weighed 65g, with the testicle measuring 45 x 35 x 30mm. On opening the testicle, there was a well circumscribed, smooth, cream tumour measuring 15 x15 x 10mm. The tumour was not invading the testicular capsule and the tunica vaginalis, epididymis, spermatic cord and hilum were not involved.

Microscopically the tumour had the appearance of a sex cord stromal tumour with features compatible with an adult granulosa cell tumour as shown in Fig. 2. There was no lymphovascular invasion, no rete testes invasion and no evidence of significant atypia, mitosis or necrosis.

A repeat CT Neck and TAP, 4 months later, showed stable benign appearing tiny subpleural nodules in the left lower lobe. Tumour markers, including Beta HCG, LDH, aFP and Inhibin A&B level, were normal 4 months following right radical orchidectomy.

The patient will be followed up with 6 monthly surveillance CT imaging for 2 years, followed by annual CT imaging thereafter.

3. Discussion

Granulosa cell tumours are a rare subtype of sex cord stromal tumours in men. The juvenile subtype accounts for the majority of reported tGCTs and are commonly diagnosed in the first 6 months of life. Adult tGCTs are comparatively rare with less than 100 cases recorded worldwide.

Median age of diagnosis for Adult tGCTs is 44 years (range 12–87). Macroscopically these tumours demonstrate a yellow-tan cut surface with solid and/or cystic components. Microscopically, they are identified by vague cell borders, Call-Exner bodies and pale nuclei with

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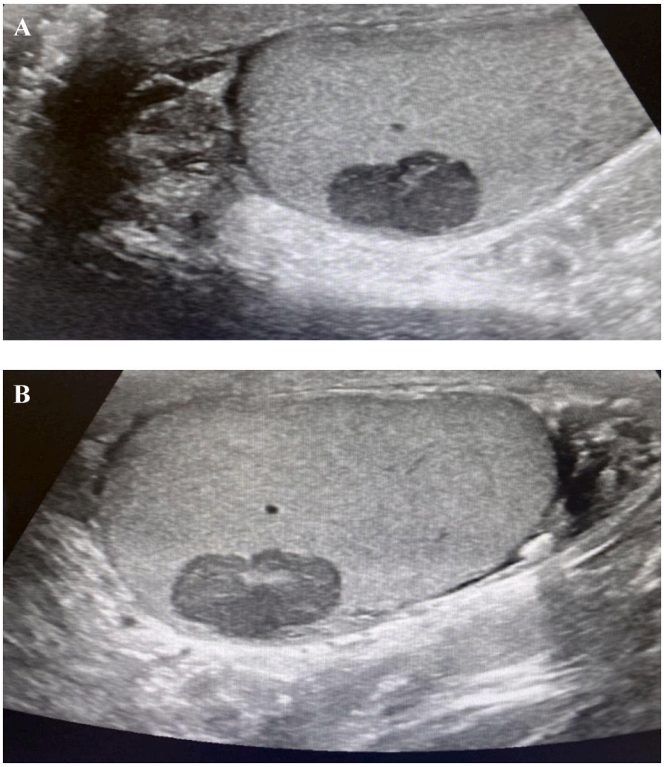

Fig. 1. A Right epididymal head. Heterogenous, well circumscribed right intra-testicular mass
B Heterogenous, well circumscribed, hypoechoic mass right testicle.

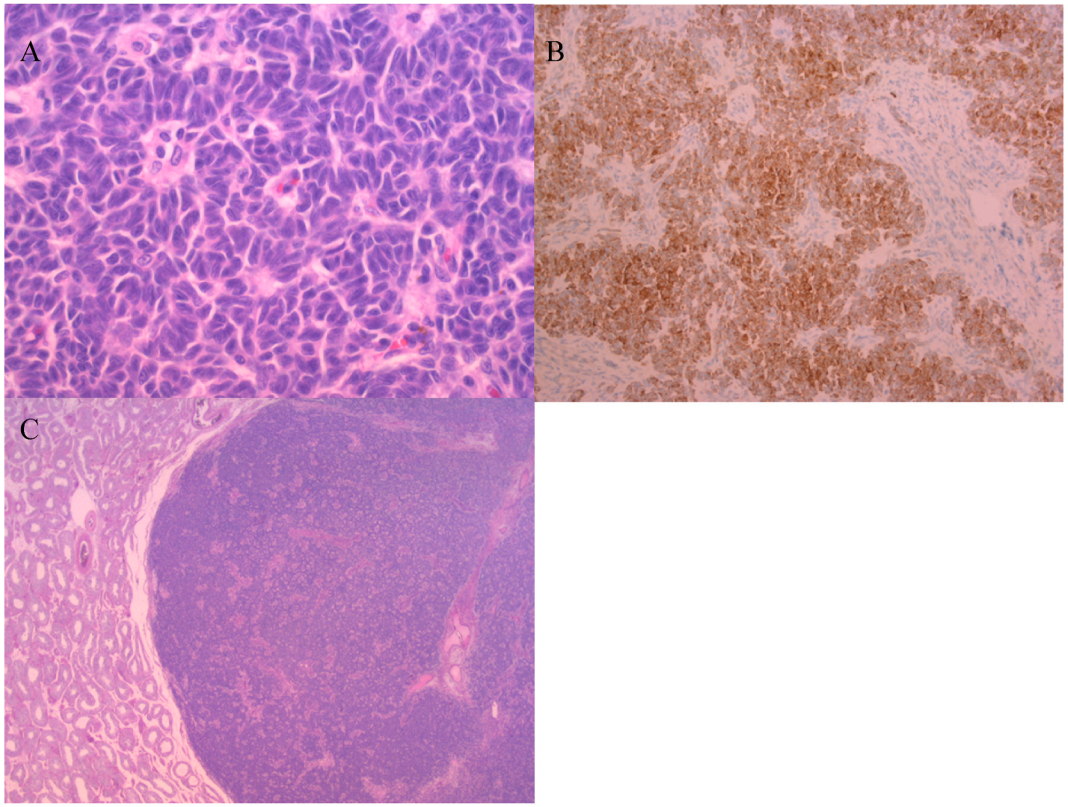

Fig. 2. A. Call exner bodies in adult granulosa cell tumour.
B. Adult granulosa cell tumour with Inhibin staining
C. Adult granulosa cell tumour with normal adjacent testicular tissue.

nuclear groves, referred to as "coffee bean nuclei".[4]

The malignant and metastatic potential of adult tGCTs is of clinical concern. All cases reported in the literature thus far were initially treated with radical inguinal orchidectomy, with no role for adjuvant treatment for disease confined to the testicle. The concern however is the potential for this tumour to present with metastatic recurrence many years later. Jimenez-Quintero LP et al. reported, in their case series, liver and retroperitoneal lymph node metastases 10 years after initial diagnosis of a tGCT[2] In a separate case report, metastasis to bone was identified 6 years after radical orchidectomy.[3]

Due to the rarity of this tumour, the pathological features that predict metastatic potential are not clearly defined. Tumour size of >5cm was the only statistical significant predictor of malignancy identified in a previous analysis of reported cases of this rare tumour subtype.[5]

4. Conclusion

Adult type granulosa cell tumour of the testicle is a rare primary testicular tumour. Due to its rarity, there is minimal predictors of prognostic outcome at initial diagnosis with previously reported cases presenting with metastasis up to 10 years after diagnosis. Further publications outlining long term outcomes of these cases are required in order to assist in determining best initial management and long term follow up.

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