

Histologic evaluation of the remnant associated with testicular regression syndrome

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Introduction:

Testicular Regression Syndrome (TRS) involves partial or complete testicular tissue regression in 46 XY individuals.

Management of residual tissue remains controversial, with some experts recommending routine surgical excision due to concerns about potential malignant transformation of viable germ cells, while others question its necessity given inconsistent histopathological findings.

The aim of this study is to ascertain the incidence of presence of germ cells and seminiferous tubules within excised nubbins.

Materials:

A retrospective analysis of all specimens of resected testicular remnant in patients with non-palpable testis during a period of 15 years.

Results:

TRS was diagnosed in 57 patients with a male phenotype.

The median age at diagnosis was 5.5 years. The left side the most affected (66% vs. 34%).

All patients underwent laparoscopic exploration. The remnant was identified in the inguinal region in 33 cases (58%), in the scrotum in 4 cases (8%), and in the abdominal cavity in 9 cases (15%). In 11 cases (19%), the exact location was not documented.

Macroscopically, the remnants consisted of a fibrous cord, frequently ending in a nodule, which was observed in 50 patients (88%).

Histopathological analysis revealed normal-appearing spermatid cord structures and the presence of the vas deferens in 45 cases. The epididymis was identified in 34 cases (59%).

In 43 patients, the nodule had a fibrous composition. Calcifications and hemosiderin deposits were present in 30% and 31.5% of cases, respectively.

Seminiferous tubules were found only in two patients (3.5 %) and were formed by Sertoli cells without associated germ cells. Leydig cells were absent in all cases.

Conclusion:

The management of the remnant associated with TRS is still controversial.

In our study, identifiable testicular tissue was found only in 3.5% of examined remnants with no germ cells seen.

Based on these results, the removal of the remnant associated with TRS appears unnecessary after laparoscopic exploration.



Fig. 1: Macroscopic aspect of the testicular remnant.

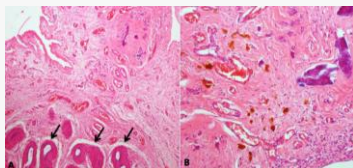


Fig. 2: Histologic findings of a case of TRS showing epididymal structures (A, HE x 40) and fibrous tissue with dystrophic calcification and numerous hemosiderin-laden macrophages (B, HE x 100).