Retractile Testis: Management of 50 Boys


Pediatric Surgery Unit*, Pathology Department**, Faculty of Medicine, Zagazig University, Egypt

Background/ Purpose: Retractile testes are testes that can be brought down into their normal positions in the scrotum but then immediately retract upward and out of the scrotum. This study was undertaken to evaluate the management of 50 boys with retractile testes and its effect on future fertility.

Materials & Methods: Fifty boys were diagnosed and confirmed as retractile testes in our outpatient clinic. Hormonal treatment in the form of Human chorionic Gonadotrophin (HCG) was started for all boys. Orchiopexy was indicated for non-responder and re-ascending testes. Testicular biopsy was taken after taking consent from parents of the boys. Follow up of the boys continued for at least 6 months after the treatment.

Results: Response to HCG treatment occurred in 38 boys (76%) (responder). Orchiopexy was performed for 14 boys (12 boys were non-responder and 2 re-ascending). Testicular biopsies revealed abnormal histology in 5 boys (35.7%).

Conclusion: The retractile testes are not a benign entity or a normal variant of descended testes. The patients with retractile testes should be carefully examined, managed and followed up.

Index Word: retractile testes, hormonal, surgical treatment

INTRODUCTION

A testis is described as retractile when it can be pulled down into the scrotum during physical examination, but retract back out of the scrotum on release. 1 This retractibility is assumed to be secondary to cremastic activity. Although the retractile testis is believed as a benign entity descending at puberty and needing no further treatment, there are many reports showing tubular degeneration in the retractile testes causing future infertility problems. 2,3,4 Hormonal therapy in the form of Human Chronic Gonadotrophin (HCG) or Gonadotrophin- releasing hormone is suggested for the treatment of the retractile testis before surgical treatment in the form of orchiopexy. 5

AIM OF WORK

The aim of this study is evaluation of the management of 50 boys with retractile testes and its effect on future fertility.

PATIENTS AND METHODS

50 boys were diagnosed and confirmed as retractile testes were referred to outpatient clinic of Pediatric Surgery Unit, Zagazig University Hospital. 15 of them were referred as undescended testes.

Diagnosis and confirmation of the retractile testes depended upon the followings:-
- Parents of the boy, most of time, observed that the scrotum was empty.
- On the examination, the boy must be relaxed in a warm room. Before touching the boy, the genitalia and inguinal region visually examined since the first touch may stimulate a cremastric reflex. The child is placed in the frog-leg or squatting position and by gently milking from the inguinal region to the scrotum the testis is brought down in the scrotum. If the testis remains in the scrotal base for 1-2 minutes without tension then the testis retract upwards on release, the diagnosis of a retractile testis was made.

- Ultrasound was made for confirmation the site and detects the size of the testis with comparing with contralateral side.

After the diagnosis and confirmation of the retractile testes, the followings were recorded:

- Ages of the boys at diagnosis.
- Bilaterality.
- Position of the retractile testes (high scrotal and inguinal levels).

Hormonal treatment in the form of Human Chorionic Gonadotropin was started for all boys. The World Health Organization recommends biweekly intra muscular injections of 250 Iμ for young infants, 500 Iμ for patients up to 6 years of age and 1000 Iμ for boys thereafter for 5 consecutive weeks.

Each boy was re-evaluated 6 months after completing HCG course for the final position and any re-ascend afterwards. The patients were classified into:

- Responders, if the testis descended and persisted in the bottom of scrotum
- Non-responders, if the final position was not the bottom of the scrotum,
- Reascending” if after an initial response, if the testis goes back to a higher position, it is considered as re-ascending.

In non responder or re-ascending testis, surgery was offered to correct the problem. Dartos pouch orchiopexy was performed. During the operation, associated hernia was recorded and testicular biopsy was taken after having a consent from the parents. The testicular biopsy was obtained from the least vascular site opposite the mediastinum of the testis. Parameters from germ and Sertoli cells were determined from testicular biopsies. Average spermatogonial number (S/T value), average number of germ cells per tubule in 50 tubules and the presence of tubular degeneration was examined.

Boys with clinically proved inguinal hernias and past history of treatment for cryptorchism were excluded from this study. Follow up continued for at least 6 months after the treatment.

**RESULTS**

This study included 50 boys with clinically diagnosed retractile testes, 20 (40%) boys had unilateral retractile testes and 30 (60%) boys were bilateral. In unilateral cases, 15 cases (70%) were on the right side while 5 cases (30%) were on the left side. The mean age at diagnosis was 5.5 years (ranged from 2.5 to 11.5 years). The distribution of the retractile testes according to their positions was, high scrotal in 17 boys (34 %) and inguinal in 33 boys (66 %). The size of the retractile testes decreased in 23 boys (46 %) by comparing with contra lateral testes or with a previous examination.

The response to hormonal treatment (HCG) is summarized in table (1) as follow:

-Response to HCG administration (responder) occurred in 38 boys of 50 (76%) with mean age of 7.5 years.

-Failure of the response to HCG administration (non-responder) occurred in 12 boys of 50 (24%) with mean age of 4.6 years.

- Boys who responded to HCG administration were re-examined after 6 months. Re-ascending developed in 2 boys of 50 (4%) with mean age 3.5 years.

Dartos pouch orchiopexy was performed for 14 cases (12 cases after failure of HCG treatment and 2 cases re-ascending). During operation, processus vaginalis was found patent in 10 boys (78.5%). Table (2) shows analysis of the results of Testicular biopsies. Testicular biopsies revealed decrease of the number of germ cells with abnormal S/T value in addition to focal tubular degeneration in 5 boys of 14 (35.7%). Follow up of the boys after operation for 6 months, revealed no re-ascending of their testes.
Table 1. Shows the response to HCG treatment.

<table>
<thead>
<tr>
<th></th>
<th>Responder</th>
<th>Non - responder</th>
<th>Re-ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td>38 boys of 50 (76%)</td>
<td>12 boys of 50 (24%)</td>
<td>2 boys of 50 (4%)</td>
</tr>
<tr>
<td><strong>Age (Mean)</strong></td>
<td>7.5 years</td>
<td>4.6 years</td>
<td>5.3 years</td>
</tr>
<tr>
<td><strong>Bilaterality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Unilateral</td>
<td>15 boys of 20 (75%)</td>
<td>8 boys of 12 (66.7%)</td>
<td>1 boy of 2 (50%)</td>
</tr>
<tr>
<td>- Bilateral</td>
<td>23 boys of 30 (76.6%)</td>
<td>4 boys of 12 (33.3%)</td>
<td>1 boy of 2 (50%)</td>
</tr>
<tr>
<td><strong>Levels</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Inguinal</td>
<td>24 boys of 33 (72.7%)</td>
<td>10 boys of 12 (83.3%)</td>
<td>2 boys of (100%)</td>
</tr>
<tr>
<td>- High scrotal</td>
<td>14 boys of 17 (82.4%)</td>
<td>2 boys of 12 (16.7%)</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2. Shows analysis of the results testicular biopsies.

<table>
<thead>
<tr>
<th></th>
<th>Abnormal histology</th>
<th>Normal histology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td>5 boys of 14 (35.7%)</td>
<td>9 boys of 14 (64.3%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>5.1 years</td>
<td>4.3 years</td>
</tr>
<tr>
<td><strong>Bilaterality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Unilateral</td>
<td>3 boys of 5 (60%)</td>
<td>6 boys of 9 (66.7%)E</td>
</tr>
<tr>
<td>- Bilateral</td>
<td>2 boys of 5 (40%)</td>
<td>3 boys of 9 (33.3%)</td>
</tr>
<tr>
<td><strong>Levels</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Inguinal</td>
<td>5 boys of 5 (100%)</td>
<td>8 boys of 9 (88.9%)</td>
</tr>
<tr>
<td>- High scrotal</td>
<td>1 boys of 9 (11.1%)</td>
<td></td>
</tr>
</tbody>
</table>

**DISCUSSION**

Although the therapeutic approach to undescended testes is well established, the management of retractile testes is still the subject of much debate. Retractile testes are thought to represent a normal variant of descended testes and resulted from an overactive cremastric reflex. The cremastric reflex is most active between 2-7 years. Recently, Piyush, et al concluded that the retractile testes are not a normal variant, since they have a considerable risk of undergoing ascent and lying outside the scrotum.

There were many reports showing histomorphological changes in both retractile and cryptorchid testes causing future infertility problems. Also, the observations of some authors that a retractile testis is frequently hypotrophic compared with the normally descended testis, lead to the hypothesis that the retraction and permanence in the extrascrotal position can affect the fertility. In addition, pathological studies also provide evidence that the retractile testes may be abnormal. Han, et al found that although the retractile testes have a significantly higher average number of spermatogonia
than cryptorchid testes, they have the same degree of tubular degeneration, suggesting that the retractile testes undergo some abnormal histological changes. All previous data support a concept that the retractile testes should be carefully examined and managed.

In this study, Human Chorionic Gonadotropin was administered for all boys with retractile testes with success rate 76%. This nearly similar to the study of Ahmet et al. Surgical treatment of the retractile testes in the form of orchiopexy was indicated and performed for 14 boys (28%) (12 boys with failed HCG and 2 boys of re-ascending testes). This is nearly similar to the result of the study of Giorgo, et al in which 22.7% of boys required orchiopexy.

The mean ages of the boys with non-responder and re-ascending testes in this study were 4.6 and 5.3 years respectively which was lower than that of the responder (7.5 years). This explained that the higher response to HCG treatment is with increasing age.

In this study, testicular biopsies revealed abnormal S/T value with focal tubular degeneration in 5 of 14 boys (35.7%) but Han, et al reported that abnormal S/T value in 40% of the retractile testes.

The mean age of boys with abnormal histology in testicular biopsies was 5.1 years but the mean age of responder to HCG treatment was 7.5 years. This explained that the treatment of retractile testis must be started without delay. All boys with abnormal histology had the testes in the inguinal levels.

Ettor, et al suggested that the spermatogenesis impairment found in undescended testes is probably related to the high mean age at surgery recorded or to the lack of an appropriate surgical correction. Because of the retractile testes is exposed to the same circumstances of the undescended testes, this explanation could be applied in the retractile testes.

CONCLUSION

In conclusion, this study suggests that the retractile testes are not a normal variant of descended testes. The patients with retractile testes should be carefully examined, managed and followed up. Management of these patients, hormonal and surgical, should be started without delay because of the retractile testes lie on a spectrum of spermatogenic impairment between normal spermatogenesis and cryptorchidism.

REFERENCES