

RE-DO ORCHIDOPEXY IN A GENERAL SURGICAL UNIT-RELIABILITY OF CLINICAL DIAGNOSIS AND THE OUTCOME OF SURGERY

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Background: Re-do Orchidopexy is not very common, expertise is limited and the results of clinical examination and ultrasonography are not always reliable. **Methods:** This cross-sectional study was based on medical records of patients under-going re-exploration of inguinal region for a missing testicle after previous groin surgery, and no mention of orchidectomy. All patients were thoroughly examined, investigated with ultrasonography and offered re-exploration. Results were graded as Good, Fair and Poor. **Results:** Out of 11 boys included in the study, 7 (63.63%) had failed orchidopexy. Another 3 (27.27%) were opened for 2nd stage orchidopexy and 1 (9.09%) had iatrogenic ascent of testis after herniotomy. On clinical examination 4 (36.36%) had a palpable testicle at the superficial ring, 2 (18.18%) were in inguinal canal (1 doubtful!), and no testicle could be palpated in 5 (45.45%). Ultrasonography picked up 2 testicles (18.18%) at the superficial Inguinal ring, 1 (9.09%) in Inguinal canal and 1 (9.09%) testicle in the abdominal cavity. On re-exploration, 10 (90.9%) testicles were found and brought down, 7 (63.63%) being considered of reasonable consistency and size. Another 3 (27.27%) were considered soft or small in size, and in 1 (9.09%), no testicle was found. In 5 patients (45.45%), the testicle was at superficial ring, in 3 (27.27%) in the inguinal canal, and in 2 (18.18%) in the abdominal cavity. Results were considered good in 6 (54.54%), fair in 3 (27.27%) and poor in 2 (18.18%). **Conclusion:** Groin examination after previous inguinal surgery is tricky. Ultrasonography is also not very reliable. Re-exploration via the inguinal approach is adequate and recommended. Thorough exploration is essential before declaring the testicle absent.

Keywords: Un-descended testis, re-do orchidopexy, clinical examination, operative findings, outcome

INTRODUCTION

Maldescended testis in childhood is common. Inguinal surgery for a variety of pathologies including maldescended testis, hernia and hydrocoele is also common.¹ Early orchidopexy, prior to the age of two is recommended.^{2,3}

- to limit histological changes
- to improve fertility
- to improve detection of malignancy
- to correct the associated inguinal hernia, and
- to correct the noticeable anatomic defect

Results of early orchidopexy are good, and generally, requirement for re-do surgery is not frequent. However, surgery may prove difficult in some children, especially in non-palpable testes, and in these, some authors recommend laparoscopic approach.^{2,4} At times re-do surgery is needed to correct residual deformity. Re-do orchidopexy, in contrast to primary orchidopexy is less frequently performed. Clinical examination and investigations are not extremely helpful in locating the presence and the position of the mal-descended testicle,^{2,4} especially in a previously operated groin. Open inguinal approach definitively decides about the presence or absence of testicle.⁵ A re-do operation is technically more demanding, is also less well-

documented; concentrated experience being limited, and the results are not always good.

In this study we have reviewed our experience with re-do orchidopexies to assess the difficulties encountered in diagnosis, and to assess the efficacy of our open inguinal exploration approach as regards the eventual outcome of re-do surgery.

MATERIAL AND METHODS

This cross-sectional study, based on medical records was conducted at the department of Surgery, Ayub Medical College and Hospital Complex, Abbottabad, from January 2000 to December 2006. The Medical Records of all the patients with re-do orchidopexies at our surgical unit were retrieved and thoroughly scrutinized. Details of previous inguinal surgery, including operative findings and procedure, clinical findings when presented for re-do surgery and investigation findings were recorded. At the time of re-do surgery, all patients were clinically assessed by the same team of surgeons, and an attempt was made to localize the testicle through the use of high definition Ultrasound probe. Re-exploration, with a guarded prognosis, was offered to all patients presenting with previous inguinal surgery, testis missing from the scrotum and no document mentioning removal of testis (orchidectomy). Testis

was identified through an open inguinal approach and dissected sharply. If presence of fibrous tissue prohibited safe dissection, peritoneal cavity was entered early. Vas and vessels were identified within the peritoneal cavity, dissected and followed. Post-operatively, follow-up was performed by the same team at one week, one month and six months.

Patients with history of inguinal surgery, a missing testicle(s) and no mention of orchidectomy in the medical records were included in the study. Patients un-willing for re-do surgery, those lost to follow-up and with incomplete records were excluded.

Results, at follow-up were graded as good (fair-sized testicle in scrotum without tension), fair (small-sized testicle or testicle under tension) and poor (completely atrophic or absent testicle).

Results

During this 7 year period, 18 patients with previous inguinal surgery, missing testicle(s), and no mention of orchidectomy, presented to the Surgical OPD. Two patients refused surgery. Sixteen patients were clinically examined, investigated with ultrasound and re-explored for the missing testicle. Three patients were lost to follow-up, and 2 had incomplete records; these 5 patients were excluded from the study.

Out of 11 boys included in the study, one had previous surgery at Ayub Hospital Complex, and the rest were operated elsewhere. Mean age at initial surgery was 6 ± 2.97 years (range 37 days to 12 years). Mean age at re-do surgery was 7.27 ± 3.1 years (range 2 to 12.5 years). A failed orchidopexy for UDT accounted for 7 (63.63%) of re-explorations, 3 (27.27%) were re-opened for a planned second-stage orchidopexy, and 1 (9.09%) had an iatrogenic ascent of testis after herniotomy. Of the 7 patients re-opened for a failed orchidopexy, 3 had been told that there was no testicular tissue! In 2 (18.18%) there had been more than one previous attempts.

On clinical examination, 4 (36.36%) testicles were at the superficial ring, 2 (18.18%) were in the inguinal canal (1 doubtful!), and there was no palpable testis in 5 (45.45%) kids.

On ultrasonography, 2 (18.18%) testicles were definitely picked up at the superficial ring, 2 (18.18%) intra-abdominal, and 1 (9.09%) in the inguinal canal.

On re-exploration, 10 (90.9%) testicles were found and brought down. At the time of re-do surgery, 7 testicles (63.63%) were considered reasonable in consistency and size; 3 testicles (27.27%) were considered soft and/or small. Testicles were found at the superficial ring in 5 cases (45.45%), in inguinal canal in 3 cases (27.27%), and intra-abdominal in 2

cases (18.18%). In one patient, (9.09%), no testicular tissue could be found; vas was ending blindly.

The mean post-operative follow-up was 8.9 ± 4.1 months (range 6–18 months). Results were graded as good in 6 cases (54.54%), fair in 3 cases (27.27%) and poor in 2 cases (18.18%). Among the fair results, one testicle was soft in consistency and small in size, where as the other was small in size and under tension. In those graded as poor, one testicle was found atrophic at re-surgery, whereas the other atrophied post-operatively and the scrotum was empty at 6 months follow-up.

DISCUSSION

Undescended Testis (UDT) is common.^{1,4,6} Incidence in premature babies is generally around 33%, in full term infants around 3–5% and by the age of one year it comes down to 0.8 to 1%.⁷ Early surgery appears to have beneficial effects. The suggested age for surgery is dropping, and these days recommended at around 6–7 months of corrected age.^{8,9}

Documentation may not be properly maintained; and similarly, the results of attempted orchidopexy, especially if not good, may not be disclosed to the attendants in clear terms. Therefore a confused opinion is common. Primary orchidopexy is a relatively simple procedure if performed carefully. It should be taken seriously with appropriate follow-up and a detailed and high-quality record. Dividing fibrous bands and hernial sac provide required length to bring down the testicle into the scrotum.¹⁰ In re-do surgery, both of these become even more important, and hence the open inguinal surgical approach that we have adopted.¹¹

Non palpable UDT may be difficult to bring down to scrotum in a single stage surgery, and here a planned second stage operation may be required. It is easier to counsel the parents before hand, rather than after completing the first stage surgery. It is not uncommon to find incomplete and incomprehensible medical records including discharge cards, in patients where initial surgery fails.

Testis in the inguinal canal or at the superficial ring does not need many investigations.¹² However, clinical examination of the groin may be very tricky in children previously operated. In our series, our clinical examination was misleading in almost half of the kids. Similarly, investigations, like ultrasonographic scans, can not definitely diagnose absence of testicular tissue. In our experience, ultrasound scan was accurate in only a limited number. We therefore believe and conclude that surgical exploration is essential. We did not depend on our clinical findings or investigations in planning our surgical approach. Surgical exploration is sufficient for deciding and executing treatment.

We did not rely on documentation to decide about offering surgery. Re-do surgery was offered to all patients and even to the 3 kids where the parents after initial surgery were told that their kids had no testicular tissue! We found viable testicles in majority of re-explorations (10/11), including 2 out of 3 kids declared to have no testicle. A simple open inguinal approach is recommended.¹² Sharp dissection and willingness to enter the peritoneum early rather than late is recommended to avoid cord damage, which is a possibility due to fibrosis resulting from previous surgery.¹³ Other authors seem to agree that a thorough inguinal exploration is mandatory before deciding that there is no testicular tissue.^{12,14}

CONCLUSION

Looking for testis after previous inguinal surgery may be tricky. Meticulous record-keeping and a serious attitude towards the primary inguinal surgery is mandatory. Clinical examination and ultrasound is not reliable when deciding about the absence of testicle. Open inguinal approach with willingness to enter peritoneum is suggested. Thorough exploration is recommended before declaring absence of testicle.

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