

FACTORS INFLUENCING TESTICULAR OUTCOME FOLLOWING TWO-STAGE FOWLER-STEPHENS ORCHIDOPEXY FOR INTRA-ABDOMINAL TESTES

Brendan Rory O'Connor, Fardod O'Kelly, Alan Mortell, Feargal Quinn

Department of Paediatric Surgery & Urology, Our Lady's Children's Hospital, Crumlin, Dublin 12, Ireland

Aim of the Study: Two-stage Fowler-Stephens orchidopexy (FSO) for intra-abdominal undescended testes (UDT) allows for mobilization of the testicle to the scrotal position using an individualised patient approach. Despite 152 publications on the topic since 1983, debate remains as to the ideal approach, and the factors which may be associated with poorer outcomes. This series aims to identify factors which influence outcomes after open and laparoscopic FSO.

Methods: A retrospective review of 110 children (aged 1.12-12.98 years, median 2.7 years), who underwent two-stage FSO for 151 intra-abdominal testes between April 2006 and August 2016 was undertaken. There were 100 open 2nd stage FSO, of which 30 were bilateral (21 synchronous; 9 metachronous), and 51 laparoscopic 2nd stage FSO, of which 11 were bilateral (9 synchronous; 2 metachronous). The median interval to the 2nd stage procedure was 7.35months (Range 3.63-50.9months). No child was lost to follow-up

Main Results: Testicular ascent occurred in 3/151 cases (1.98%). Atrophy occurred in 16/151 (10.59%), including 11/110 (10%) unilateral and 7/41 (17.03%) bilateral intra-abdominal testes (chi-squared: $p=0.26$). Of the 30 bilateral testes brought to the scrotum synchronously seven atrophied (23.3%) and none ascended. In the metachronous group, two (18.18%) atrophied and one (9.09%) ascended (Fisher's exact test: $p=1.0$ and $p=0.26$, respectively). Clips were used in 85.6% 1st-stage compared with diathermy in 14.4%. Mobilization of the testis was through the deep ring in 70% cases. Laparoscopic 2nd stage was not associated with superior testicular outcomes ($p=0.264$). A long detached vas deferens ($p=0.0001$), and a hypertrophied contralateral testicle ($p=0.002$) were associated with post-op atrophy.

Conclusions: This is the largest series of FSO to date. Successful outcomes were recorded in 135/151 (89.3%) testicles. Atrophy occurred in 10.59%. An abnormal vas deferens and contralateral testicular hypertrophy were associated with poorer outcomes