

in the early post-operative period. It would certainly be interesting to see a follow-up study of these patients in another year or two to evaluate any changes in differential function of the kidneys over time.

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Is staging beneficial for Fowler-Stephens orchiopexy? A systematic review

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Purpose: Fowler and Stephens showed that by dividing the spermatic vessels a high intra-abdominal testis could be placed in the scrotum. Testicular atrophy is a potential complication of this technique. We conducted a systematic review to determine whether single or 2-stage Fowler-Stephens orchiopexy results in better testicular viability.

Materials and Methods: We searched electronic databases, clinical trial registries and gray literature. We included reports describing boys younger than 18 years with a primary outcome of “testicular viability and position.” We performed a meta-analysis using random effects models. Heterogeneity was assessed using forest plot and I(2) statistic.

Results: We identified 1,807 citations and included 61 articles. Single stage Fowler-Stephens orchiopexy was discussed in 9 articles, a 2-stage procedure in 36 and both approaches in 16. There were no randomized controlled trials, and most studies were cohort or case series. The pooled estimate of success rates was 80% for single stage Fowler-Stephens orchiopexy (95% CI 75 to 86) and 85% for 2-stage Fowler-Stephens orchiopexy (95% CI 81 to 90). The pooled odds ratio of single stage vs 2-stage Fowler-Stephens orchiopexy was 2.0 (95% CI 1.1 to 3.9) favoring the 2-stage procedure. There was no difference in the success rate between laparoscopic and open techniques in either single or 2-stage Fowler-Stephens orchiopexy. There was no evidence of asymmetry on the funnel plot. There were no complications reported with single stage, while ileus, hematoma and infection were the most common complications with 2-stage Fowler-Stephens orchiopexy.

Conclusions: Both techniques have a fairly high success rate but 2-stage Fowler-Stephens orchiopexy appears to carry a higher rate of success than the single stage approach (85% vs 80%, OR 2 in favor of 2-stage). Laparoscopic and open techniques had the same success rate. However, the level of evidence of the studies was low, and a study of a more robust design, such as a randomized controlled trial, should be performed.

Editorial Comment

This study is a meta-analysis of the English literature regarding Fowler-Stephens orchiopexy. The authors sought to determine if either a one-stage or a two-stage procedure had better outcomes. Out of over 1,800 citations they were able to include 61 articles. As one might imagine, there were no randomized controlled trials and the overall quality of these studies was average. Despite this, the statistical analysis demonstrated a slight advantage to a staged Fowler-Stephens orchiopexy with a success rate of 85% versus an 80% success rate in the single stage

procedure. There was no significant difference noted between laparoscopic or open repair for either a single stage or a staged Fowler-Stephens orchiopexy. Those studies that looked at both a one-stage versus two-stage Fowler-Stephens orchiopexy were pooled together and favored a two-stage procedure with an odds ratio of 2, although the numbers in many of these studies were quite small.

Although the strength of the data in this metaanalysis is not particularly strong it certainly favors a two-stage approach for these patients. Location of the testis and anatomy of the vas and vessels will vary from patient to patient. In addition, surgeon experience and comfort level with each of these procedures has to be taken into account. Having said that, however, this meta-analysis of the available literature gives the advantage to a staged procedure.

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