

Surgical treatment of varicocele in children with open and laparoscopic Palomo technique: a systematic review of the literature.

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PURPOSE: We systematically reviewed the results of varicocelectomy by Palomo procedure in children and adolescents. **MATERIALS AND METHODS:** We performed a search of the English literature through the MEDLINE((R)) database and the Cochrane Central Search library. The key words used were "varicocele and children" and "varicocele and adolescents." Of 264 articles published with data on varicocele surgery in children and adolescents 27 concerned the classic Palomo procedure and 20 dealt with the modified Palomo technique, in which the testicular artery was spared. Laparoscopic Palomo varicocelectomy was compared with the open Palomo technique. **RESULTS:** Totals of 1,344 and 496 patients were treated with the laparoscopic and open Palomo techniques, respectively. The rates of hydrocele in the open and laparoscopic groups were 9.7% and 6.9%, respectively ($p = 0.81$). The rate of recurrence was 2.9% in the open group and 4.4% in the laparoscopic group ($p = 0.146$). A modified Palomo procedure was used in 715 operations and the classic technique in 1,454. Hydrocele was diagnosed in 3.2% of patients in the modified group and 7.7% in the classic group ($p < 0.001$). Varicocele recurred in 4.2% of patients undergoing the modified procedure and 3.4% of those undergoing the classic procedure ($p = 0.506$). Mean \pm SD testicular catch-up growth was 54.7% \pm 38.9% in the modified group and 66.7% \pm 19.9% in the classic group ($p = 0.584$). Three studies documented improvement of the quality of semen examination postoperatively compared to a control group of uncorrected cases. No study evaluated the rate of fertility after varicocelectomy. **CONCLUSIONS:** The rate of hydrocele is high with the classic Palomo technique and less with the modified technique. The rate of varicocele recurrence is around 3% to 4% with both procedures. The percentage of testicular catch-up growth is variable.