



SURGICAL OUTCOMES OF VARICOCELE IN CHILDREN AND ADOLESCENTS AND ITS IMPACT ON REPRODUCTIVE FUNCTION

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ABSTRACT

Varicocele is a common genital venous disorder in children and adolescents, characterized by dilation of testicular veins and retrograde blood flow. It may lead to testicular hypotrophy, impaired spermatogenesis, and decreased reproductive potential in the future.

Introduction. Varicocele is a common genital venous disorder in children and adolescents, characterized by dilation of testicular veins and retrograde blood flow. It may lead to testicular hypotrophy, impaired spermatogenesis, and decreased reproductive potential in the future.

Recently, microsurgical, laparoscopic, and endovascular techniques have been increasingly used for varicocele repair. However, data on the surgical outcomes and impact on reproductive function in children and adolescents remain a clinically relevant topic.

Aim of the Study. To evaluate the effectiveness of varicocele surgery in children and adolescents and to assess its impact on postoperative testicular volume, sperm parameters, and reproductive function.

Materials and Methods. The study included 50 children and adolescents aged 11–18 years diagnosed with varicocele. Preoperative assessment included clinical examination, ultrasonography (US), and Doppler evaluation. Surgical method: microsurgical varicolectomy. Postoperative follow-up: 6–12 months. Parameters evaluated: Testicular volume (via US). Semen analysis (sperm count, motility, morphology). Postoperative complications (hydrocele, testicular atrophy, recurrence)

Statistical analysis was performed using SPSS software, with $p < 0.05$ considered statistically significant.

Results. Testicular Volume: Six months postoperatively, testicular volume increased by an average of 12%, especially in adolescents with previously reduced testicular size. Semen Parameters: At 12 months follow-up: Sperm count increased by 28%. Motility improved by 22%. Normal morphology increased by 18%. Complications: Postoperative complications

were minimal: 2 patients (4%) developed hydrocele and 1 patient (2%) had recurrence; all were mild and required no additional treatment. Reproductive Function: Postoperative improvement in testicular volume and semen parameters indicates a positive impact on reproductive potential, particularly in adolescents.

Conclusion. Microsurgical varicocelectomy in children and adolescents is a safe and effective procedure. Surgery leads to significant improvement in testicular volume and semen parameters, positively influencing reproductive function. Postoperative complications are minimal, confirming the safety of the microsurgical approach. Early intervention reduces the risk of future infertility and preserves reproductive health..

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