Objectives. To evaluate the effect of the delivery of testis on semen parameters, serum testosterone, and pregnancy rates after varicocelectomy, performed with and without delivery of the testis.

Methods. A total of 165 patients with clinically diagnosed varicoceles who underwent surgical ligation with \((n = 55)\) or without \((n = 110)\) testicular delivery were included in this study. Patients were followed up postoperatively at 3, 6, and 9 to 24 months. The postoperative outcome was assessed by determination of the semen parameters, testosterone level, varicocele recurrence, and pregnancy rate.

Results. No varicocele recurrences were clinically detectable after either surgical approach. The mean increase in motile sperm/ejaculate after varicocelectomy without testicular delivery was significant \((P < 0.05)\) for grade II and III varicoceles. When the testis was delivered, the increase was significant only for grade III varicoceles. No statistically significant difference was found in the change in motile sperm/ejaculate between the two cohorts for all three varicocele grades. The overall pregnancy rate was also not significantly different between the two groups. The testosterone levels rose from 323 to 471 ng/dL on average \((P < 0.05)\) after varicocelectomy without testicular delivery but did not change in men who had testicular delivery. The change in testosterone level, age, and testicular volume did not correlate with either the increase in semen parameters or the grade of varicocele treated.

Conclusions. The results of our study have shown that varicocelectomy without testicular delivery has equivalent or more beneficial effects on semen parameters without affecting varicocele recurrence rates. Delivery of the testis did not offer any beneficial effects on semen quality or pregnancy rates after varicocelectomy.