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Infertility due to varicocele: Is surgery the answer?

Anurag Mishra

Maulana Azad Medical College, India

Aim: To evaluate the effect of varicocele on semen and its changes following varicocelectomy.

Methods: The study included 112 subjects of which 71 subjects were of varicocele (46 with and 25 without infertility) and 41 subjects were controls (20 fertile adults and 21 adults with infertility without varicocele). All subjects underwent detailed semen analysis (including volume, pH, sperm counts, motility, morphology and sperm function test), FNAC of bilateral testes and hormonal analysis (LH, FSH, Testosterone). Bilateral low ligation (under loupe magnification) of varicocele was done in Doppler confirmed cases and changes in above parameters were recorded post operatively. The subjects were followed up for a period of 6 months. The parameters were compared and analyzed among the four groups and also with post operative values in subjects of varicocele using Student's t-test or Chi-square test as applicable. Some data showed wide variation, so Mann Whitney's test was also used where applicable. Statistical significance was defined if the p value was <0.05.

Results: On pre-operative evaluation subjects with varicocele were found to have significantly low sperm counts, low sperm motility, deranged sperm function and higher proportion of sperms with abnormal morphology in semen as compared to controls. The semen parameters improved markedly within 3-6 months after bilateral varicocele ligation with significant increase in sperm counts, motility and also functional capacity of sperm (morphology and sperm function test). There was significant improvement in the subjects' hormonal status and grade of testicular histology after surgery. The extent of impairment and post operative improvement of all parameters was related to the grade of varicocele.

Conclusion: Varicocele has an adverse effect on male fertility by affecting semen parameters. Bilateral varicocele ligation causes a progressive and significant improvement of semen parameters and thus increases the chances of conception. Therefore, though the indication of surgery for symptomatic varicocele is well established, we also recommend surgery in all cases of varicocele associated with infertility or oligospermia.

Biography

Anurag Mishra is a young surgeon currently working as Assistant Professor in prestigious Maulana Azad Medical College, New Delhi. He has keen interest in clinical research and participates in various conferences both in India and abroad. He has presented his work in various international meetings (in Nanjing, China and Paris, France, Las Vegas, USA etc.) and various national meetings. He also has deep interest in academics and is one of the youngest ones to be selected as Assistant Professor.

anurag.alok@gmail.com