

Is it worthwhile to operate on subclinical right varicocele in patients with grade II–III varicocele in the left testicle?

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Purpose: To determine whether repair of subclinical varicoceles in the right testicle results in significant seminal improvement in patients with clinical left varicocele.

Methods: Patients were divided into two groups: Group I (unilateral varicocelectomy) and Group II (bilateral varicocelectomy—subclinical left varicocele). The mean sperm concentration before treatment was higher in Group I (21.01 ± 19.1) compared to Group II (5.7 ± 10.7) ($p = 0.04$).

Results: An increase in volume was detected in the left testicle of patients in Group I (17 ± 7.9 vs. 22.81 ± 8.2 ; $p = 0.04$) and in the right testicle of patients in Group II (18.4 ± 6.2 vs. 22.3 ± 6.5 ; $p = 0.04$). Although the mean postoperative sperm concentration in Group I increased slightly (25.7 ± 22.8), the mean sperm concentration in Group II increased significantly (30.32 ± 9.8 ; $p = 0.03$). Pregnancy rate was higher in Group II (66.7%) compared to Group I (33.3%).

Conclusions: Even a small, subclinical unrepaired varicocele continues to have a detrimental effect on bilateral testis function in a patient with grade II–III left varicocele.

KEY WORDS: Spermatozoa; semen; infertility; subclinical; varicocele.

INTRODUCTION

Clinical studies and laboratory research have provided convincing evidence that varicoceles may have a detrimental effect on spermatogenesis (1,2). In fact, semen quality uniformly declines in animals with induced varicoceles, even when only a left varicocele is produced (3). Furthermore, the varicocele does not only influence the physiology and the reproductive potential of the spermatozoa, but also the fertilizing capacity of the haploid male gamete (4). In a very elegant study, Sofikitis *et al.*, studying animal models, observed that the surgical repair of the secondary

right varicocele improved all semen parameters indicating the harmful consequences of the primary induced left varicocele on the right testis (5). Therefore, it appears that the primary left varicocele leads to a development of a secondary right varicocele due to activation of a tension reception within the wall of the left testicular vein.

There are many unresolved clinical questions related to varicoceles, for instance, as to whether subclinical varicoceles should be diagnosed and treated (6–15). Therefore, even though recent progress in diagnostic methods has revealed a higher incidence of subclinical varicoceles, the clinical significance of this is controversial as regards male infertility (1,2,16).

There are several studies showing that there is a significant improvement in semen parameters following varicocelectomy and in accordance with varicocele size (17–19). Marsman and Schats noted that

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