Title: Impact of clinical varicocele on seminal reactive oxygen species levels in a fertile population and its correlation with varicocele grade and testis size: a prospective controlled study
Objective: Infertile men with varicocele are associated with impaired sperm quality, decreased testicular volume and high levels of reactive oxygen species (ROS) in semen; however, this remains unclear in cases of fertile men with incidental varicocele. The purpose of our study was to investigate the impact of clinical varicocele on ROS levels in neat and washed semen in a fertile population. In addition, we evaluated the correlation between ROS levels, testicular volume and varicocele grade in the same population.

Design: Prospective

Materials and Methods: We prospectively evaluated 114 men undergoing vasectomy. A group of 30 infertile patients was used as a positive control. Standard semen analysis, ROS levels and seminal leukocyte levels were measured in all subjects.

Results: Thirty-three of the 114 (29%) fertile men had clinical varicocele and the remaining 81 (71%) had no clinical varicocele. ROS levels were not significantly associated with the presence of clinical varicocele in fertile men (Table 1). No significant correlations between ROS levels and varicocele grade or testis volume were found in fertile men with or without varicocele.

Conclusions: Presence of varicocele in fertile men is not associated with higher levels of ROS. In addition, ROS levels are not correlated with varicocele grade and testis volume in fertile men. Therefore, we suggest that the presence of increased ROS levels in fertile patients with palpable varicocele and normal seminal parameters may play a role in the early identification of those who will experience progressive decrease in fertility potential if left untreated.

Support: None