Varicocele and Prolidase Enzyme Activity

Introduction and Objectives: There is no definite information about how varicocele forms. However, it has been shown that there is an increase in non-collagenous tissue on the vessel wall of varicose veins. Prolidase enzyme is important in the turnover cycle of collagenous tissue and has been evaluated as an important factor that plays role in the formation of varicocele. In our study, we evaluated the relationship between the vessel wall, semen and blood prolidase activity of varicose veins and the number and mobility of sperm.
Materials and Methods: Spermiogram performed, sperm count and mobility known 48 grade 3 varicocele patients (mean age 21.8) were included in the study. Subinguinal varicocelectomy was performed. Prolidase enzyme activity was measured photometrically in sperm samples taken from patients before varicocelectomy in varicose veins removed during varicocelectomy and in blood taken from varicose veins.
Results: The sperm numbers had a significant positive correlation with the seminal plasma prolidase activities ($r = 0648$, $P < 0.001$), and a significant negative correlation with the varicose vein tissue prolidase activities ($r = -0513$, $p < 0.001$). There was no correlation between blood prolidase levels and sperm numbers. There were no correlations between the sperm mobility and prolidase activities in tissue, semen and blood.
Conclusion: Declining seminal fluid prolidase activity while sperm numbers decrease makes us think that the enzyme might be sperm derived. However, increased prolidase enzyme activities on the tissue influencing turnover cycle of collagenous tissue may be important in the formation of varicose veins, is also thought to be contributing to the reduction in sperm numbers. Conflict of interest: None