OP 2

SEMINAL PLASMA Zn, Cu, Cd and Se ANDSEMENQUALITYOF MEN INVESTIGATED FOR INFERTILITY.

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Introduction: Male infertility is on the rise and contributed by many factors.

Objective: To describe the effects of Zn, Cu, Cd and Se in seminal plasma on sperm parameters of male partners of couples investigated for infertility.

Methods: Semen samples (n=110) were collected and Seminal fluid analysis was done according to the WHO guidelines. Seminal plasma Cd, Cu Zn and Se were estimated by Atomic Absorption Spectrophotometry.

Results: Among 110 subjects 68 were normozoospermics and 42 were pathozoospermics. In pathozoospermics the mean seminal plasma concentration of Zn was significantly lower while the concentration of Cu was significantly higher (p=0.001). Other metals showed no significant difference between above groups. There was a significant positive correlation between Zn in seminal plasma and sperm concentration (r=0.52, p=0.001), progressive motility (r=0.42, p=0.001), viability (r=0.49, p=0.001), and normal morphology (r=0.36p=0.001) but notwith semen volume (r=0.22, p=0.07). There was a significant negative correlation between Cu in seminal plasma and sperm concentration (r=-0.52 p=0.001), progressive motility (r=-0.29, p=0.002), viability (r=-0.33, p=0.001), and normal morphology (r=-0.22, p=0.018,) but not with volume (r=0.14, p=0.16).Between Se and Cd in seminal plasma and sperm parameters assessed, there was no correlation. A significant negative correlation was found between Cu and Zn (r=-0.22, p=0.019,) in seminal plasma. There was no correlation between Cd and Se and the semen parameters.

Conclusion: Zn in seminal plasma has a positive effect on sperm count, motility, viability and normal morphology revealing Zn as a beneficial trace element in seminal plasma while Cu has a negative correlation on the same semen parameters revealing Cu as a harmful element. This reciprocal effect of Zn and Cu is further evidenced by low Zn and high Cu levels in pathozoospermic men. Cd and Se did not show a significant effect on any of the semen parameters.