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VARICOCELE AND ITS EFFECTS ON THE MALE REPRODUCTIVE SYSTEM

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Varicocele is a disorder characterized by abnormal dilation of testicular venules in the pampiniform plexus. This disorder is one of the most important causes of infertility. This illness affects 15-22% of the adult male population and it is seen in 30-40% of the infertile patients. In cases of secondary infertility diagnosis, the incidence of varicoceles increases to 69-81%, while 80% of varicocele-diagnosed cases have no infertility. In many studies, varicoceles have been shown to cause progressive histopathologic alterationes in animal and human testes. In a project of the World Health Organization that shows Varicocel's effects on fertility; it is reported that this disease is associated with semen anomalies (deterioration in number and motility), testicular volume and decreased Leydig cell function. Although the varicocele pathophysiology has not yet been fully elucidated, it is asserted that it may caused from factors including oxidative stress, apoptosis, hormonal dysfunction, acrosome reaction defect, heavy metals, autoimmunity, hyperthermia, changes in testicular blood flow and venous pressure. The role of reactive oxygen species (ROS) in the development of varicocele and varicosele associated testicular damage has been investigated in many studies. Although an increase in ROS concentration was found in 80% of varicocele infertile patients, this increase was found in 77% of varicocele fertile man and in 20% of non-varicocele fertile individuals. In addition, the total antioxidant capacity of normal individuals was significantly higher than those of varicoceles. it was suggested that in patients with varicocele, apoptosis plays an important role in the development of oligospermia. In the one study suggests that during normal spermatogenesis 75% of all preleptotene spermatocytes can be removed by apoptosis. Although the most radical treatment of varicocele is surgical operations, recently has been shown some pharmacological agents (especially antioxidants) that can use as alternative treatment in cases of infertility due to varicoceles.

Keywords: Varicocele, antioxidants, testes, infertility, oxidative stress.

Biography

Zeliha Selamoglu is a Professor in Medical Biology department of Nigde Omer Halisdemir University, Turkey. She earned her PhD in Biology from Inonu University, She has published over 90 peerreviewed journal articles with over 800 citations and many technical reports. She is a member of Society for Experimental Biology and Medicine: Associate Membership and European association for cancer research. She has served as Editorial Board member for many Journals.

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