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# Effect of the polycyclic aromatic hydrocarbons exposure on sperm DNA in idiopathic male infertility

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There is an increasing awareness of the potential role of genetic and environmental factors in idiopathic male infertility. However, there is little compelling evidence to date to suggest that the risk of idiopathic male infertility among the general population is influenced by exposure to certain chemicals. Thus the first objective of the present study is to assess the occurrence and distribution of PAHs in mussels of Alex Coast, to identify the origin of PAHs in the Alex Coast, Secondary, investigate the possible association between exposure to PAHs and male idiopathic infertility through; Estimation of urinary metabolites of PAHs, malonaldehyde (MDA), GSH, GST, testosterone, FSH, prolactin, Semen analysis and sperm chromatin dispersion test (Halo sperm). The present results of the study revealed that there were high concentration of many PAHs detected in the tissues of two species of mussels collected from Alex Coast which may supposed to be at big risk for human health. Also, The present results revealed that there was a high level of urinary 1-hydroxy pyrene, 1-hydroxy naphthalene, 2-hydroxy naphthalene in the urine of detected infertile group.In the current study, a high significant increase in the level of MDA in the sera of detected idiopathic infertile group was observed with a significant decrease in glutathione content. Where, the compounds resulting from the oxidation of PAHs have the ability to enter redox cycles, which increased the formation of reactive oxygen species (ROS) and thus caused sperm DNA damage. The data provide strong evidence that semen samples containing a statistical threshold of 30% sperm DNA fragmentation have a reduced level of pregnancy success. The results of the present study elucidated that there were DNA fragmentation from 32% - 40% in the sperm of some idiopathic infertility subjects.

## Biography

EL-Hassan Mokhamer has his expertise in Molecular and biochemical changes due to environmental pollution and passion in improving the health and his academic activities is teaching of cell and Molecular biology for Pharos pharmacy school students In Alexandria, Egypt. Also teaching Molecular Biology for zoology Department students, Faculty of Science, Damanhour University.

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