



Investigation of effect on environmental toxicants on male infertility

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Introduction: Infertility is defined as the inability to conceive after frequent and unprotected sexual intercourse for more than a year, a condition that currently affects 15% of couples worldwide . Approximately 50% of the cases are male infertility . Pathophysiological conditions (e.g. varicocele and urogenital infection) are directly linked to only 23% of all male infertility cases, with environmental factors, such as exposure to environmental toxicants, being one of the major causes of the remaining cases Male infertility caused by exposure to environmental toxicants, such as cadmium, mercury, bisphenol A (BPA) and dioxin, is a global problem, particularly in industrialized countries. In this review discuss about investigation of effect on environmental toxicants on male infertility.

Materials and methods: this review briefly discuss about the effects of investigation of effect on environmental toxicants on male infertility.

Results: Our studies showed that environmental toxicant leads to oxidative stress which can cause male infertility by disrupting the cell junctions and adhesion between Sertoli-Sertoli cells and Sertoli-germ cells via the phosphatidylinositol 3-kinase (PI3K)/c-Src/focal adhesion kinase (FAK) signaling pathway. Moreover, the pathophysiological roles of mitogen-activated protein kinase (MAPK) and cytokines (which are activated during exposure to environmental toxicants) in the testis were clear. Significantly, these signaling pathways were found to mediate their disruptive effects on intercellular junctions via polarity proteins.

Conclusion: our studies that showed that environmental toxicants induce male infertility via signaling pathways in response to an increase in oxidative stress in the testis. therefore, these studies may be develop approaches to treatment and manage the damaging effects of environmental toxicants to male reproductive health.