

CADMIUM TOXICITY: A POSSIBLE CAUSE OF MALE INFERTILITY.

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Background/Aims: Human, animal and in vitro studies suggest that heavy metals may have adverse impacts on male reproductive health, even at relatively low-level exposures. Epidemiological studies provided equivocal results concerning the effects of cadmium (Cd) on hormone concentration, male infertility and sperm parameters. Very few human observational studies have analyzed the relationship between male reproductive function and heavy metal concentrations in diverse biological fluids. A case–control study was conducted to examine relationships between environmental exposures, particularly to Cd, with male infertility.

Methods: A case–control study was conducted. The cases (87) were recruited from Melilli, the controls (13) were recruited by Regalbuto, a rural area. The Cd concentrations were detected by a Perkin Elmer Elan DRC-e ICP-MS in seminal plasma. The progressive motility (a+b) of spermatozoa was evaluated.

Results: Cd showed higher concentrations in in seminal plasma of cases (1.67 µg/l) while in controls is lower (0.55 µg/l). In both volunteers, sperm density and morphology were into the reference limit of WHO parameters, whereas the cases samples showed a motility reduction from 45% to 23 % (50% reduction).

Conclusion: Our results indicate that the males exposed to environmental Cd showed a deleterious effect on fertility.

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