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Y-chromosome Microdeletions Analysis in the AZFc Region and Oxidative Damage Profiling of Oligoasthenoteratozoospermic Patients of South Indian Cohort

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ABSTRACT This work aims to analyze Y-chromosome microdeletion in AZFc region of Oligoasthenoteratozoospermic (OAT) patients and oxidative damage profile in idiopathic OAT patients. Peripheral blood, serum, and semen samples of 57 OAT men and 57 fertile controls samples were collected for analyzing YCMD in the AZFc region using polymerase chain reaction and gel electrophoresis and to understand the oxidative damage level, total antioxidant capacity (T-AOC), Human 8-Hydroxy-deoxyguanosine (8-OHdG), Lipid peroxidation (LPO) and nitric oxide (NO) profiles were used. Out of the 57 OAT men, nine (15.7%) were observed with AZFc deletion. The remaining 48 idiopathic infertile men samples were analyzed for oxidative damage. The T-AOC levels were significantly reduced inpatient samples than in the control ($p<0.05$). This study shows that testing YCMD and oxidative stress damage analysis is necessary before undergoing Assisted Reproductive Technology (ART).