

DBT-CDFD team studies infertility in men

New Delhi, March 02: Male infertility is a common and severe problem affecting 7% of the population. The common causes include structural, hormonal, environmental and genetic defects like abnormal sperm, delivery, defective pituitary gland function, infection of male glands, chromosomal abnormalities and overexposure to specific environmental conditions. Usually, many people opt for assisted reproductive technologies (ART). Individuals opting for ART are advised testing their Y chromosome for aberrations or microdeletions before the procedure. Many in fact, choose to get Y-chromosomal testing done before finally proceeding with assisted reproduction.

A study was conducted by researchers at DBT-Centre for DNA Fingerprinting and Diagnostics (DBT-CDFD), Hyderabad was to identify the chromosomal abnormalities, Y - microdeletions in infertile men, and assess the abnormal sperm count frequency. Based on the sperm count and viability, the infertile men were grouped as Azoospermia (no sperms), Asthenospermia (reduced sperm mobility), Oligospermia (fewer sperms) and the remaining as Idiopathic infertility (with no defined condition). A total of 370 infertile men and 60 normal control men were recruited in this study.

Chromosomal abnormalities were identified in 3 men. The prevalence of Y-microdeletions in the infertile group was 8/370 in the Azoospermia factor (AZF) region with four AZF c deletion/duplication, two AZF a deletions, one AZF b & c deletion and one case of total AZF a, b & c deletion. However, only 5 cases of Y-microdeletions were identified by Multiplex PCR, but an additional three cases were identified by using a newer technique called MLPA (Multiplex ligation-dependent probe amplification). Here, the researchers performed MLPA post multiplex PCR, and the study revealed a good yield of the Y-microdeletion identification using MLPA as compared to Multiplex PCR. MLPA can quickly identify the partial duplications that are difficult to be identified using Multiplex PCR. Hence, we recommend MLPA as the choice of investigation compared to multiplex PCR for infertile men.

Reference:

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