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Summary of study: ***Determination of viability of spermatozoa obtained posthumously from dead bodies brought to the mortuary of AIIMS Bhopal with varying post-mortem interval.***

In the meticulous research conducted by Dr. Mrinal Patnaik and team, the process of post-mortem sperm retrieval (PMSR) and subsequent laboratory analysis was examined, revealing both technical difficulties and successful outcomes. The retrieval of live, motile, and normal morphology sperms from 97 deceased individuals was thoroughly investigated. A remarkable observation emerged from the study: even after extended post-mortem intervals, notably 21 hours, substantially high-quality samples were obtained, with rates of 91% live and 23% normal morphology sperms, with the rates of PMSR success decreasing across age groups.

Of the cases that yielded live, motile, and normal morphology sperms, a subset highlighted the influence of storage conditions and the timing of retrieval. Impressively, in 7 cases where live, motile, and normal morphology sperms were retrieved, the process was successful within a post-mortem interval of 2 to 6 hours after the declaration of death. This success extended to bodies that were not subjected to cold storage as well as those stored for as long as 16 hours.

The study further delved into correlations between various parameters including the time interval before retrieval, use of cold storage, duration of cold storage, and morphological features of the spermatozoa. Notable correlations emerged: normal morphology displayed weak negative correlation with the time interval before retrieval, weak positive correlation with cold storage use, and moderate negative correlation with the duration of cold storage. Abnormal head features exhibited moderate negative correlation with cold storage use and strong positive correlation with duration of cold storage, both statistically significant. Additional correlations between morphological parameters and timing/storage factors were identified, shedding light on the intricate relationship between these variables.

This research provides valuable insights into the complexities of PMSR, shedding light on the relationship between age and success rates while also contributing to the understanding of sperm morphology and its correlation with storage conditions. The findings contribute to the broader field of reproductive science and its intersections with assisted reproductive technologies. Given the growing importance of these insights, this research study holds significance for both forensic medicine and reproductive science communities.

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