DETECTION OF MATERNAL DNA PROFILE FROM SEVERELY DECOMPOSED PLACENTA OF DEAD ABANDONED BABY

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Among a number of abandoned baby cases, most of them was secretively forsaken right after it is born due to unwanted pregnancy such as juvenile, rape and adultery. In the end, it was left and found to be dead after a long time, which means that putrefaction can hinder the DNA identification for paternity test and damage the meaningful evidence. Here we would like to introduce the rare case of detecting the maternal DNA profile in dead abandoned newborn baby case. The baby was found in a white gunny sack beside the edge of the Han river, Gwang-Jin district, Seoul, republic of Korea. His body was totally decomposed and not separated from placenta, which means the baby was not born in hospital and deserted in a simultaneous way. In this case, there are not any evidence except for dead body and severely decomposed placenta. Commonly, placenta is an organ that connects fetus and mother via uterine wall, which means that it has tissues from fetus(chorion) and mother(decidua). In order to get mother DNA profile, it is crucial to separate these two tissues. By using Quantifiler Trio kit, it was possible to measure the degradation index of placenta. From these data, we can understand the appearance of irregular decompose in placenta compared to other common cases. Considering the complex appearance and degradation of placenta in this dead baby, we can design the effective method to detect the maternal DNA. Overall, it is more meaningful to get maternal DNA profile than only dead baby DNA profile due to the unnecessity of the paternity test with designated suspects and the probability of matching the suspect directly in National DNA database.