

IMPORTANCE OF TOXICOLOGIC-CHEMICAL ANALYSIS IN DETERMINING THE CAUSE OF DEATH IN CHARRED CORPSES - CASE REPORTS

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Determining the cause of death in charred corpses is a significant problem in forensic practice. Many delicate questions need to be answered during the autopsy of charred corpses, and one of the most important is to determine whether the corpse came into the fire alive or dead (1,2). Autopsies of three charred corpses were performed on demand of investigative authorities. External findings in all three cases revealed severe carbonization, heat defects all over the body, and numerous heat bone fractures. The internal examination discovered soot in the upper and lower airways in two cases, while the neck organs in one case were damaged and unrecognizable due to heat exposure. Toxicologic-chemical analysis of the blood samples using a colorimetric method according to Wolff for carboxy-hemoglobin determination reported the following concentrations of carboxy-hemoglobin: 60%, 25%, and 10%, respectively. It was concluded that the death in all three cases was violent. However, in one case, the death occurred due to carbon monoxide poisoning (60% of carboxy-hemoglobin), while in the other two cases, the death occurs by external heat effects. Toxicologic-chemical analysis of blood for carboxy-hemoglobin above 40% is a reliable sign of carbon monoxide poisoning. Thus, it plays a significant role in determining circumstances and the cause of death in charred corpses.

References

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ZNAČAJ TOKSIKOLOŠKO-HEMIJSKE ANALIZE U UTVRĐIVANJU UZROKA SMRTI KOD UGLJENISANIH LEŠEVA- PRIKAZI SLUČAJEVA

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Utvrdjivanje uzroka smrti kod ugljenisanih leševa je značajan problem u forenzičkoj praksi. Tokom obdukcije ugljenisanih leševa potrebno je odgovoriti na mnoga delikatna pitanja, a jedno od najvažnijih je utvrditi da li je leš dospelo u vatru živ ili mrtav (1,2). Na zahtev istražnih organa izvršene su obdukcije tri ugljenisana leša. Spoljašnjim pregledom u sva tri slučaja utvrđena je jaka karbonizacija, toplotni defekti po čitavom telu i brojni prelomi kostiju usled dejstva visoke temperature. Unutrašnjim pregledom je u dva slučaja utvrđeno prisustvo čađi u gornjim i donjim disajnim putevima, dok su vratni organi u jednom slučaju bili jakostepeno oštećeni i nerazpoznatljivi usled dejstva visoke temperature. Toksikološko-hemijskom analizom uzoraka krvi kolorimetrijskom metodom prema *Wolff*-u za određivanje karboksi-hemoglobina pokazala je sledeće koncentracije karboksi-hemoglobina: 60%, 25% i 10%. Zaključeno je da je smrt u sva tri slučaja bila nasilna. Međutim, u jednom slučaju smrt je nastupila neposredno usled trovanja ugljen-monoksidom (60% karboksi-hemoglobina), dok je u druga dva slučaja smrt nastupila usled spoljašnjeg delovanja visoke temperature. Toksikološko-hemijska analiza krvi na karboksi-hemoglobin iznad 40% je pouzdan znak trovanja ugljen-monoksidom, pa ima značajnu ulogu u utvrđivanju uzroka smrti kod ugljenisanih leševa.

Literatura

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