Medicolegal importance of gun-shot residue gsr

Mohamed Ahmed Mokhtar

This research is applied to throw light on the medicolegalimportance of GSR, and to find a method to investigate thecases which arise from firearm injuries. Also, an idea aboutdifferent types of ballistics and their structures, differenttypes of weapons and ammunition, firearm injuries andhistory of fire-arms was applied in this research. As thechemical analysis of a bullet found in a body or on the sceneof the crime, may give the investigator very important clues,this research demonstrate the different methods which werebe applied to detect GSR from a fired bullet to indicate thetype of the ballistic and the weapon used in the crime.• Chemical analysis of bullet alloys and smokeless powderhas the leader role to identify the GSR particles in firearminjuries by using different methods of analysis including:ICP-MS method, pyrolysis gas chromatography, neutronactivation analysis [NAA], atomic absorption spectrometry[AAS], scanning electron microscope with energy dispersivex-ray analysis [SEM-EDX], scanning electron microscope,energy dispersive spectrometry [SEMlEDS], micellarelectrokinetic capillary eletrophoresis -[MECE] etc...• So, we can conclude that, the benefit of particle analysis ofthe gun shot residue in the medicolegal investigations is themost defenitive and successful method for an accuratedetection of the weapons and the ammunition used, and itshould be applied in all cases of firearm injuries.