SET UP OF A PROTOCOL FOR HUMAN REMAINS COLLECTION, SHIPMENT AND ANALYSIS IN A HIGH THROUGHPUT LABORATORY

Francis Hermitte, Gendarmerie Nationale

Recent events highlight the importance for countries to be able to perform disaster victim identification as quickly as possible to help family mourning. When traditional techniques based on anthropological and physical characteristics of the victims failed, DNA appears to be a gold standard for disaster victim identification. As a national forensic laboratory specialized in DNA identification of living human based on the analysis of DNA from buccal cells deposited on FTA® paper , we set up a new protocol to speed up post mortem identification of disaster victim remains combined with a high throughput automated laboratory. Biological samples (bone marrow, red muscle or blood) are recovered with a swab and transferred to FTA® paper for collection in crash site, shipment, storage and analysis. We first experiment on January 2013 this new protocol after an air crash on 4 samples leading to their identification. Two other air crashes on August and November 2013 confirm the robustness of this protocol allowing the identification respectively of 82 and 337 human remains in a 48 h time length. From August 2013 to June 2014, we also applied this protocol with success for the identification of 50 isolated cadavers found in various conditions: fresh, highly burnt, immerged and decaying.