G45 The Germanwings Air Crash in the French Alps (2015): Victim Identification

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After attending this presentation, attendees will understand the importance of appropriate training, planning, and collaboration of national and international teams in order to apply the International Criminal Police Organization (INTERPOL) Disaster Victim Identification (DVI) protocol. Procedure was of particular importance in this challenging DVI case as complicated site conditions, the state of the human remains, and the different nationalities represented on the flight all combined to render a successful outcome very difficult.

This presentation will impact the forensic science community by providing deeper insight into the response given by the French identification team to these DVI challenges. Special attention will be paid to techniques for collecting and identifying fragmented and commingled human fragments in an inaccessible and steep mountain range. This presentation will also help attendees understand the role the dental team played in the identification of the 150 victims of 18 different nationalities.

On March 24, 2015, an Airbus A320-211, Germanwings flight 9525 from Barcelona, Spain, to Düsseldorf, Germany, crashed 100 kilometers (62mi) northwest of Nice in the French Alps within the Massif des Trois-Évêchés.

All 144 passengers, 4 crew members, and 2 pilots were killed; there were no survivors and no external victims. The inaccessible and steep crash site covered two square kilometers (500 acres).

Immediately, the French national gendarmerie victim identification team was activated. The inaccessibility and dangerous conditions surrounding the crash area necessitated the use of specialized forces, such as the high-mountain gendarmerie helicopters, to recover remains.

An inquiry into the accident was conducted by the Transport Accident Investigators of Gendarmerie a few days after the crash. The voice recorder was recovered and examined, and the cause of the crash was determined very early, which is quite rare in an air crash investigation; the co-pilot deliberately crashed the aircraft. The aircraft was travelling at 700 kilometers per hour (430mph) when it crashed into the mountain.

Less than 24 hours after the crash, an ad hoc morgue was set up in a technical room in Seyne-les-Alpes near the crash site. All the forensic identification teams, pathologists, odontologists, fingerprint examiners, DNA analysts, and sealing procedures were organized into subsectors.

Crash investigators, police, gendarmerie, and INTERPOL worked together at the scene. At the same time, an Antemortem (AM) team was set up at the Institute de Recherche Criminelle de la Gendarmerie Nationale near Paris. Due to the 18 nationalities involved, the collection of AM data took place in different countries according to INTERPOL DVI protocol.

The forensic odontology teams were composed of well-trained forensic dentists from the Medical Reserve Corps. Six dentists alternated shifts on the Postmortem (PM) team in groups of two or three for ten days. They participated in the human fragments triage, performed photography and radiography, charted PM odontograms of the dental fragments, and performed tooth extraction for DNA analysis when necessary. The AM team consisted of only one dentist because there were no French victims. His role was to transcribe the dental data collected by

INTERPOL. A third forensic odontology team composed of three pairs of dentists was set up three weeks and five weeks after the crash, and comprised a reconciliation team responsible for comparing data and preparing it for presentation to the Identification Board.

Human fragment recovery and forensic examinations onsite lasted for ten days. Thousands of human fragments and 1,200 fingers were collected, and more than 3,000 fragments were analyzed. Nine days after the crash, 150 different DNA samples were isolated.

All victims were identified; results will be presented and discussed.

This multiple fatality incident generated huge media coverage and political interest. French President Francois Hollande greeted members of the police, army, and rescue workers along with German Chancellor Angela Merkel and Spanish Prime Minister Mariano Rajoy as they visited close to the crash site.

Each disaster is different and each one must be managed appropriately and as efficiently as possible.

The INTERPOL victim identification protocol was followed and required the mobilization of multidisciplinary teams. Respecting the procedure allows us to standardize methods and work with the different countries involved. The goal is to return the bodies to their respective families as quickly as possible and with absolute certainty of identification.

Forensic Odontology, Air Crash, Identification