

A130 A Retrospective Study of the Forensic Anthropology Cases Investigated by the Legal Medicine Institute in Rio de Janeiro, Brazil, From 2011 Through 2017

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Learning Overview: After attending this presentation, attendees will better understand the forensic anthropology practices and the investigated cases at the Legal Medicine Institute in Rio de Janeiro, Brazil.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by introducing new data and case work trends of forensic anthropology in Rio de Janeiro, Brazil, and by providing a resource for comparative research between large metropolitan areas.

The Forensic Anthropology Office (SAFO) was established in the State of Rio de Janeiro in October 2010 within the Afrânio Peixoto Legal Medicine Institute (IML-AP). SAFO IML-AP is connected to the Technical-Scientific Police Department, a branch of the Civil Police of Rio de Janeiro State. Like most Brazilian states, the forensic examination provided by SAFO IML-AP is subordinate to the Public Security Secretary, as it is considered a police unit.

A detailed review of anthropology examination reports performed by SAFO IML-AP between the years 2011 and 2017 was conducted to present a demographic of the cases. A total of 196 cases were reviewed. Only cases that were forensically significant and of human origin were included and considered in the final dataset, totaling 181 cases. The data analyzed from each report included the completeness of the remains received; biological profile; trauma analysis; the site where the individual was found; elements that might contribute to identification; and the method used for identification.

The results reveal that 13.5% of all cases analyzed were comprised of White, or Caucasian. males between the ages of 31 and 50 years old (17/126), thus being the most significant demographic represented.

A total of 154 cases were found to have information regarding the site where remains were found. In 8% of the cases (13/154), the remains were found in Realengo, 7% (11/154) were found in Santa Cruz, and 5% (8/154) were found in downtown Rio de Janeiro City. Therefore, 20.8% (32/154) of the cases that had any information regarding where the remains were found is associated with three specific regions of Rio de Janeiro.

Of the cases examined by SAFO IML-AP, 81.2% (147/181) presented some peri-mortem trauma. The most common type of trauma was blunt force trauma with 23.1% (34/147). However, when correlating type of trauma and location of the injury, complete burned remains composed 14.3% (21/147) of the cases. Projectile (gunshot), and blunt force trauma to the head were the second and third most common types of *trauma x location* examined, being present in 12.9% (19/147) and 12.2% (18/147) of the cases, respectively. It is known that gangs in the favelas of Rio de Janeiro burn individuals in an attempt to hinder identification, which can explain the reason why many cases arrive with trauma caused by fire.

The positive identification of individuals was achieved in 13.8% (25/181) of the cases. In 48% (12/25) of the cases identified, the description for the type of identification method used was odontology. Odontology has been heavily used in the realms of forensic anthropology in Brazil where the professionals who hold the title forensic anthropologist are usually dentists with a specialization in forensic dentistry. The odontology methods used for identification include superposition of antemortem and postmortem images of the individual's teeth and dental X-ray comparison. Individuals who are identified by these methods are usually those who achieved the status of a presumptive identification. The universal health care in Brazil provides odontology services for its citizens, and their dental history can then be accessed by the legal medicine offices. Therefore, when individuals with presumptive identification are examined, their records are checked for dental X-ray comparison. DNA was the method used to identify 32% (8/25) of the cases. In comparison to odontology, DNA analysis is also used when individuals reach a presumptive identification.

It is important to note that Brazil does not have a missing persons nor an unidentified remains databank; additionally, the country also does not have a DNA databank. Consequently, the bureaucracy involved in identifying individuals may cause a delay in the process or even prevent it from happening. The data presented by this presentation provides an overview of the work being performed in Rio de Janeiro and offers an opportunity to discuss future developments of the field in Brazil.

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