



Pathology & Biology Section – 2005

G29 DNA Extraction and Anthropological Aspects From 6th to 7th Century A.D. Bone Remains

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After attending this presentation, attendees will be able to implement the knowledge of the DNA extraction.

This presentation will impact the forensic community and/or humanity by proposing a modified protocol for DNA extraction.

In the archeological site of the early Christian Episcopal complex of Saint Peter, in Canosa di Puglia (Bari, Italy), during the operations of archaeological excavations, tombs were discovered. They were dated between the 6th and 7th centuries A.D. with Carbon 14 methodology. Five skeletons were found in the five tombs:

28A: male individual, 43 years old. The height was 170 cm, the biomass was 65.7 kg. The analysis of the bones indicated several noteworthy pathologies, such as a number of hypoplasia lines of the enamel, the presence of Shmorl hernias on the first two lumbar vertebrae, the outcome of subacromial impingement syndrome.

28E: male individual, with a biological age of death between 44 and 60 years. The height was 177 cm. He had a post-traumatic fracture callus of the medial third of the clavicle with an oblique fracture rima.

29B: female individual, 44-49 years old. The height was 158.8 cm, the biomass was 64.8 kg. There was Wells' bursitis on the ischial tuberosity, on both sides.

29E: male individual, 45-50 years old. The height was 169.47 cm, the biomass was 70.8 kg. The third and the fourth vertebrae showed the Baastrup syndrome (compression of the vertebral spine). There were radiological signs of deformity on the higher edge of the acetabula and results of frequent sprains of the ankles.

31A: male individual, 47-54 years old. The height was 178.65 cm, the biomass was 81 kg. The vertebral index showed a heavy overloading in the thoracolumbar region. There were bony formations under the periosteum on both on the higher and medium facets of the first metatarsus, and on the higher and lateral facets of the fifth metatarsus on both sides. As the topography indicates, these small ossifications coincided with the contact points between the back of the foot and parts of the upper of the shoes.

From the osseous remains, in particular from the teeth (central incisors), the DNA was extracted and typed in order to identify potential family ties among all the subjects. The extraction technique used came from the DNA Promega technique, partially modified by the authors. Stay times of the sample in the extraction buffer were increased and were increased the PCR cycles.

Ancient Bone Remains, DNA Extraction, DNA Fingerprint