G86 Murder in the Ancient Castle: A XIV Century Warrior Virtual Autopsy

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The goal of this presentation is to present a unique case of the discovery of human skeleton remains of a XIV century "warrior"murdered by a crossbow arrow found in the cervical spine. A virtual autopsy ("virtopsy") was conducted with multislice Computed Tomography (MSCT) and X ray. The results of radiocarbon dating are also presented.

"There was a time, in a Tuscan castle, a brave knight valiantly died fighting a battle to defend the fortress: This is his story." Thus could begin this exceptional report concerning a discovery in a medieval castle. A medieval murder by a crossbow is presented. In February of 2004, during restructuring of a medieval castle in a Tuscan country, a burial was discovered. The burial was found at the base of an ancient keep in the highest side of the hill where the castle was built within a rectangular room. This room was more recently used for animal shelter.

The burial was placed in a pit dug in barren clay, and contained easily recognizable human skeletal remains in supine position with the arms bent on the chest and the head protected by two larges stones.

These skeletal remains constituted a primary sepulture in full space. The skeleton appeared completely preserved in each part. Anthropological examination confirmed that the remains belonged to a 30-40-year-old male with a stature of about 170 cm. The anterior surface of the left maxilla had a round bone defect with clean-cut outline, 22.10 x 14.65 mm. The alveolar processes of the left maxilla had a round bone defect with an irregular outline involving the second incisor, canine and first premolar, 17.88 x 10.64 mm galley dart stile was thrust between the second and the third cervical vertebrae. A complete x–ray study of the skeleton and an image - guided virtual autopsy with multislice computed tomography (MSCT) were made to analyse the correlation between radiologic images, anthropologic data and macroscopic findings

The x-ray study has confirmed the presence of the dart, classified as a "verrettone," a kind of XIV century dart.

The 3-D reconstruction analysis of the maxillary alveolar wound demonstrated the traumatic origin due to the dart entrance wound. The MSCT was able to analyze and reconstruct the internal dart trajectory. The dart penetrated the spinal cord causing an instantaneous death due to a complete section of medulla oblongata.

No other traumatic lesions were found.

The radiocarbon test (database used: INTC AL 98) was performed to date the remains. It confirmed them as being from the XIV century.

In conclusion, the case reported represents a unique case of human skeletal remains from a XIV century homicide, killed by a crossbow arrow in the cervical spine. A complete study with modern techniques has been performed, using CT scan and x-ray imaging, DNA analysis and Carbon 14 examination to date remains.

Crossbow Homicide, Radiocarbon Test, Multi-slice Computed Tomography (MSCT)

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