PORCINE SKIN AS AN IN-VIVO MODEL FOR AGEING OF HUMAN BITE MARKS

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Porcine skin has been shown to have similar histological, physiological and immunological properties to human skin and has been suggested as a good analogue for medical and forensic research. This study was undertaken to examine the appearance of bite mark wounds inflicted at known time intervals before and after death. Under general anaesthesia, a series of bite marks were created on a pig’s abdomen with a device designed to mechanically produce simulated human bite mark wounds. The pig skin model showed that bite mark characteristics are similar to those found on human skin. This study has provided information on the window of time showing clearly detailed bite marks occurring around the time of death. It also demonstrated that it is possible under certain conditions to determine that a bite mark was made before or after death in a porcine model. Under these experimental conditions, the results suggest that an in-vivo porcine skin model should be considered as a representative model for the study of human bite marks.

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AN HISTORICAL SKULL COLLECTION AND ITS USE IN FORENSIC ODONTOLOGY AND ANTHROPOLOGY

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The Institute of Forensic Medicine, Copenhagen, houses a collection of historical skulls of unclear origin, marked with a general geographic or “racial descriptor”. Would these historical skulls be of any value for the forensic odontologist and anthropologist concerned with teaching and casework? We tried to clarify this question by recording non-metric dental traits and by performing craniometric analyses.
A morphological and morphometric investigation of anatomical/dental traits in 80 adult skulls was performed. For each skull four non-metric dental traits using the ASU-System and three non-metric cranial traits were recorded. Nineteen cranial measures were also taken following the FORDISC programme manual. The non-metrical data were tabulated as frequencies, and the metric data were entered in the FORDISC programme. Observed non-metric trait frequencies were compared with published data. The FORDISC programme computed a discriminatory analysis for each skull and thereby assigned the skull to the most probable ethnic category.

The results for the non-metric traits showed that the traits generally followed the expected frequencies in 80% of the cases. The FORDISC programme correctly assigned ethnicity based on skull measurements in overall 70% of the cases.

It was found that this historical collection does show expected dental non-metric and craniometric traits and the collection may be of value in forensic casework in terms of comparison and for teaching purposes.

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**FORENSIC FACIAL APPROXIMATION: AN OVERVIEW OF CURRENT METHODS USED AT THE VICTORIAN INSTITUTE OF FORENSIC MEDICINE/VICTORIA POLICE CRIMINAL IDENTIFICATION SQUAD**

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Forensic facial approximation involves building a likeness of the head and face on the skull of an unidentified individual, with the aim that public broadcast of the likeness will trigger recognition in those who knew the person in life. This paper presents an overview of the collaborative practice between Ronn Taylor (Forensic Sculptor to the Victorian Institute of Forensic Medicine) and Detective Sergeant Adrian Paterson (Victoria Police Criminal Identification Squad). This collaboration involves clay modelling to determine an approximation of the person’s head shape and feature location, with surface texture and more speculative elements being rendered digitally onto an image of the model. The advantages of this approach are that through clay modelling anatomical contouring is present, digital enhancement resolves some of the problems of visual perception of a representation, such as edge and shape determination, and the approximation can be easily modified as and when new information is received.

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UNUSUAL FATAL DOG ATTACK IN DUNEDIN, NEW ZEALAND

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A case of a fatal dog attack on a middle aged woman is presented. The offending dog was her own Bull-mastiff, which had previously shown signs of aggression towards her. Most of the injuries were found on the victim’s face, neck and skull. A noteworthy feature of this attack was that the victim was known to suffer from Huntington disease. It is postulated that the involuntary movements, progressive dementia and increased moodiness characteristic of the disease may have had a significant role in triggering the attack.

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DENTO-MAXILLO-FACIAL RADIOLOGY AS AN AID TO HUMAN IDENTIFICATION

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Analysis of some anatomical structures of the face using radiographs is fundamental for human identification. The position of the postmortem skull relative to the radiographic machine and the film, as well as the exposure time, are the greatest problems found by the forensic dentist. In view of this fact, some recognised radiographic techniques that are used in vivo must be adapted. This paper shows that simple devices can make the process easier and that variation of kVp or exposure time in different situations may increase the quality of the radiographs.

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