

## GOOD BITE MARK EVIDENCE: A CASE REPORT

**H. James**

*Forensic Odontology Unit, The University of Adelaide, South Australia*

### ABSTRACT

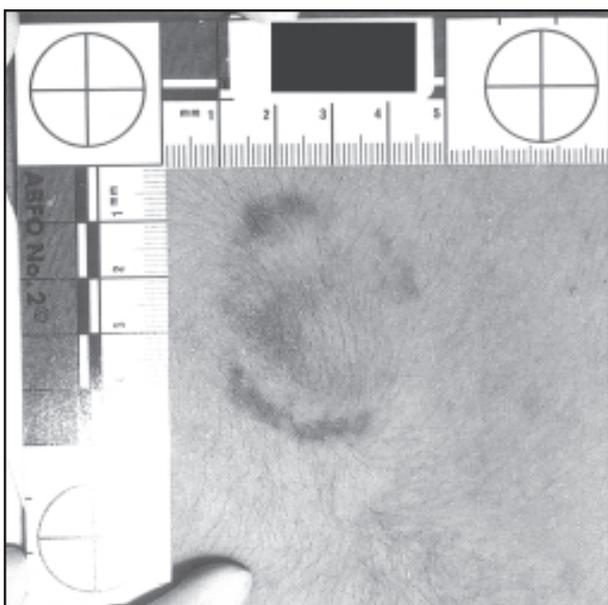
Bite mark analysis is unquestionably the most difficult, and contentious, work undertaken by forensic odontologists. Each injury must be assessed to determine if it was made by human or animal teeth, if the quality of the evidence allows presentation to a Court of Law, and if the pattern can be reasonably compared to a suspect dentition. Many injuries examined by forensic odontologists do not meet these criteria. A case is presented in which a Victim Statement could be corroborated, with evidence of good probative value.

**J Forensic Odontostomatol 2006:24:12-3)**

**KEY WORDS:** bite mark, forensic odontology, evidence, digital overlay

### CASE HISTORY

In November 2004, a 25 year old female was examined following an alleged sexual assault. Injuries included severe bruising to the face, arms and back. In the mid-scapular position there was a semi-circular bruising pattern measuring approximately 30 x 45 mm, exhibiting the class characteristics of a human bite<sup>1</sup> (Fig.1). Biological swabs and photographs of the injury were taken.



**Fig.1:** Bite mark

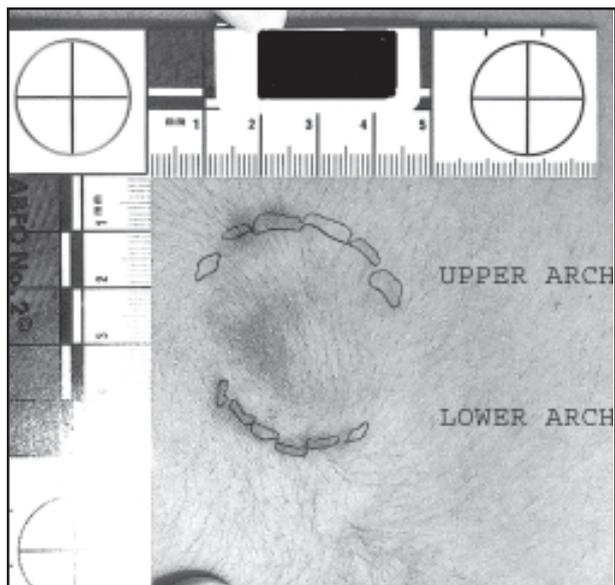


**Fig.2:** Suspect casts with overlays

Impressions of a suspect were obtained by voluntary consent under Category 3 of the South Australian Criminal Law (Forensic Procedures) Act 1998 and cast in white diestone.\* Digital overlays were produced using the techniques described by Johansen and Bowers<sup>2</sup> (Fig.2) and compared to the injury (Fig.3).

Arch width, for both upper and lower casts, was consistent with the injury. The spatial arrangement of the maxillary teeth was not distinctive, but crowding was evident in the lower arch. Tooth 41 was displaced labially and tooth 33 rotated disto-lingually. These features could be clearly seen in the pattern injury. However, moderate crowding of the lower anterior

\* Ainsworth Dental Co. Pty. Ltd, Marrickville, Australia



**Fig.3:** Comparison

teeth is not uncommonly seen in Australian dentitions and the frequency of occurrence of these tooth positions in the population is unknown. The suspect could clearly not be excluded as the perpetrator. It is for a jury to decide if he did indeed inflict the bite.

### CONCLUSIONS

1. The injury is consistent with an adult, human bite. It is not in a position to be self-inflicted.
2. It is not possible to say with certainty who has inflicted the injury.
3. It is not possible to exclude the suspect.
4. There are significant concordant features between the pattern injury and the spatial alignment of the teeth of the suspect.

### OUTCOME

This bite mark case demonstrated quality evidence of good probative value which could confidently be presented in a Court of Law. However, charges against the suspect were withdrawn five days later by the victim, citing "he really loves me".

### ACKNOWLEDGEMENTS

The authors acknowledge the support of both the Minister for Police in South Australia and the South Australia Police.

### REFERENCES

1. American Board of Forensic Odontology, Inc. ABFO Bitemark Analysis Guidelines. in Bowers CM, Bell GL, eds. Manual of Forensic Odontology 3<sup>rd</sup> ed. Saratoga Springs: American Society of Forensic Odontology, 1997: 347.
2. Johansen RJ, Bowers CM. Digital Analysis of Bite Mark Evidence. Santa Barbara: Forensic Imaging Services 2000.

### Address for correspondence:

Dr Helen James  
 Forensic Odontology Unit  
 The University of Adelaide, SA 5005  
 AUSTRALIA  
 Tel: +61 8 8303 5431  
 Fax: +61 8 8303 4385  
 Email: helen.james@adelaide.edu.au