Deepalakshmi and Prabhakar: Role of dental implants in forensic identification

A pilot study in the recovery and recognition of non-osseointegrated dental implants following cremation

Berketa J, James H, Marino V
J Forensic Odontostomatol 2011;29:38-44
Dental implants are used as an essential aid in emerging field of forensic identification because of its ability to resist higher temperature even after incineration. Various studies have been done to evaluate the dimensional changes of the implants when it is incinerated at higher temperature (1125°C). Identification of dental implants after cremation would be possible due to the color and texture change on its surface. The outcome of this type of investigation also depends upon the material used for dental implants like pure titanium and titanium alloy.

This article focuses on the changes that occur in the implants placed within the sheep mandible as well as the visibility of the batch numbers present within an implant following cremation. Three different system of implants (straumann, nobel biocare and, ankylos) were used in this study and were placed in two fresh adult sheep head which are then transported to the professional animal crematorium and incinerated for 2.5 h at a maximum temperature of 780°C. Radiographic images of the implants were taken before and after firing and were compared using adobe photoshop software. The result shows that there was a minimal image difference of all implants with identifiable threads and grooves. Even the batch numbers of the implants were also clearly visible on microscopic examination.

Survival of serial numbers thus imparts a milestone in odontologic perspective of identification of the dental implants after incineration. He further adds that the laser etching of these batch numbers is assumed to be useful for dental identification.

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ERRATUM

Journal of Forensic Dental Sciences Jan-Apr 2014; Vol 6; Issue 1
Title: Forensic Odontology: Trends in India
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- Editor-in-Chief, JFDS