X-Ray examination – A good tool for identification in decomposed body: 
A case report

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Abstract
The X-ray examination of corpse is most useful in medico-legal autopsies, in various ways, especially related to 
establishment of identity. The identification of decomposed body poses difficulty as compared to fresh body as 
ordinary means of identification like fingerprints & photographs have little value in such cases. Old healed 
fractures, bony deformities, metallic implants and foreign bodies in bones are extremely helpful for identification of 
a body where previous history is available. In the present case, a metallic rod in right femur visible on X-ray 
examination led to positive identification in decomposed body.
Key words: Identification decomposed metallic implants.

Introduction:
Medical science has advanced significantly in recent 
past due to development of newer techniques. 
Among the newer techniques, forensic radiology is 
widening its horizon in medico-legal autopsies. The role of radiology is well established in identification of corpse. Though it is relatively easy to establish identity in fresh bodies, it becomes very difficult task in case of decomposed body. In such cases, use of x-ray examination is helpful where ante mortem radiograph or data is available for comparison.

Case History: 
An unknown male, about 40 years of age, was found in a well on 12th Sep. 2004. The body was in 
decomposed state. The body was brought to Government Medical College, Nanded for medico-
legal postmortem examination.

Autopsy Findings: 
On examination of deceased, mud stained gray 
coloured full pant & dirty white coloured banian were found. Other articles like black coloured thread in 
neck, thread in right wrist, and red coloured waist 
thread and jute rope around waist were noted. 
Signs of decomposition in body included bloating 
and distortion of features with loss of soft tissue at 
places, falling of hairs, peeling of skin & plenty of 
maggots seen crawling over body making the feature unrecognizable.

Some persons residing in nearby locality where body was found came to mortuary as one of their 
relative was missing since four days. On viewing the body, clothes & other articles recovered at the time of postmortem examination and considering the approximate age of the deceased, they suspected it to be their missing relative but couldn’t identify conclusively as the body was decomposed. One of them fortunately could recall that missing relative had a road traffic accident fifteen years ago and was implanted a metallic rod in thigh as a treatment for fracture femur.

After getting this clue, the body was sent for x-ray examination. X-ray examination of both thighs was 
carried out which showed a metallic rod in right femur, which corroborate with the available history.

Every sincere effort was made to trace the ante mortem radiograph of the deceased for comparative 
 radiographic study to co-relate as per available 
history, which went in vain.

However on the basis of clothes & other articles 
recovered from the body, approximate age of the 
deceased and a metallic rod in right femur visible on 
x-ray examination, identity of the deceased was 
established conclusively.
Discussion:
Establishment of identity is one of the objectives of medico-legal autopsy.[1, 2, 3] Relatives and friends of deceased person usually establish identity in recently dead person. But in India, considering the climatic condition, the decomposition progresses rapidly, which hampers the establishment of identity. As the interval between death and examination of body progresses, efficacy of establishment of identity by ordinary scientific means such as photographs and fingerprints decreases. Establishment of identity is difficult not only in highly decomposed bodies but also in charred bodies, mutilated bodies and fragmentary remains. In such cases the help of other means such as x-ray examination of body is sought to establish identity.[1, 2, 3] Jablonski NG et al.[4] in his study reported two cases in which positive identification of unknown human remains were achieved by comparison of radiographs. Lichtenstein JE et al. [5] discussed role of radiology in identification of casualty victims by comparison with ante mortem films and records. Fitzpatrick JJ [6] carried out a study of 100 identifications with the help of radiographs. Brogdon BG [7] discussed scope of forensic radiology including determination of identity. Schmidt G et al. [8] studied use of radiographs in forensic autopsy and reviewed various modes of their application including identification of corpse from bone. Bratzke H et al [9] studied 427 radiographic examinations during the course of medico-legal autopsies & discussed various uses of radiology including identification of person.

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Post Mortem radiograph of right thigh of the deceased showing metallic rod in femur.