Contradictory Skull and Age Estimation

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Abstract

The corpus delicti means the facts of any criminal offence. The main part of the corpus delicti is the establishment of identity of the dead body and infliction of violence in a particular way, at a particular time and place, by the person on persons charged with the crime and none other. The case against the accused cannot be established unless there is convincing proof of these points. If the victim’s identity is not known, it becomes difficult for the police to solve the crime. Determination of the age of the individual comes in routine forensic practice, as the age of the victim is one of the three primary characteristics of identification. But in few cases it is not easy to opine about the age of the victim especially when we are receiving only a single bone like skull with contradictory findings. The presented case report is an attempt to discuss that how we can solve such problems by considering the other criteria’s for age estimation in skull which can be of a great use when some contradictory findings are there in remains of skeleton.

Key words: Skeletal remains, Age, and Identification.

Introduction:

Forensic identifications by their nature are multidisciplinary team efforts relying on positive identification methodologies as well as presumptive or exclusionary methodologies. Typically, this effort involves the cooperation and coordination of law enforcement officials, forensic experts, serologists and other specialists as deemed necessary. In each discipline, there is the need to develop scientific evidence relative to the questions of fact regarding identification in a defensible manner grounded on general rules of acceptance, reliability and relevance. In the forensic medicine, a great deal of effort is spent on the identity or confirmation of identity of the victim and perpetrator. This labor intensive aspect of a medicolegal examination focuses on the expertise to decide whether the remains are human or animal, and once it is decided that the remains are human in origin then we can proceed further to estimate the other data like age, sex and stature which contribute in identification. The experienced forensic pathologist considers a range of the available features and techniques before reaching a conclusion as multiple indicators are having the key role.

Case history:

In July 2007, a young male of 16 years age was kidnapped by his friends for the purpose of ransom and to hide their identification the kidnappers killed him and disposed off the body in a jungle. Police detained the suspects and during interrogation they accepted the crime committed. The skull and few pieces of long bones of the victim were recovered from the scene of crime as told by the accuse party and were brought to us for the postmortem examination. After examination we found that the bones were human in origin, belonged to one and the same individual and skull was showing characteristic features. When we examined the skull to determine the age we got surprised to see that the third molars were not erupted in upper jaw bilaterally, while the skull sutures were completely fused on outer as well as on inner tables. The dental examination was showing that the skull is of a young adult of age between 12-17 years, while the fused skull sutures were indicating its older age. The suspicion was corrected by considering the other criteria of skull for age determination and finally we reached on a conclusion that the skull belongs to an individual of age between 12-17 years, which was also corresponding with the victim’s age as identified later. The criteria which were suggesting the younger age of the skull are as following:

1. The contour of the skull was smooth and invorine on both inner and outer surfaces.
2. Muscular markings were less prominent especially on the temporal and nuchal lines and on masseteric attachments site.
3. The grinding effect was very less on the available teeth.
4. There was no groove of middle meningeal arteries on both side of skull as seen in old age.
5. The pacchionion depressions were also not present on both sides of sagittal sutures as seen in old age.

Finally the skull was preserved for superimposition technique and teeth were preserved for DNA-fingerprinting to confirm the identity. On the basis of result of DNA-fingerprinting and cross matching with father and mother’s blood, identity of the victim was confirmed. After going through all the reports we found that the age of the victim was corresponding very well with the age given by us.

Discussion:
Age is one of the three primary characteristics for the purpose of identification. Determination of the age of individual is not a difficult task in unknown dead bodies even when the body has converted into the skeleton. Dental criteria and ossification centers of long bones are better for age estimation when the individual belongs to the younger age group of less than 20 years. But when the age of the individual is more than 20 years the age estimation becomes difficult by examination of other criteria like changes

in pubic symphysis and fusion of skull sutures etc., as these are not reliable criteria’s for age determination. And it becomes more complicated when we are receiving only a single bone like skull, which is showing the contradictory findings as in present case. In such cases we should take into the consideration of other criteria’s to determine the correct age of the individual so it can be helpful to the investigative agencies in establishment of corpus delicti.

The skeletal remains are rich in information. The forensic experts, working as a part of team of investigative agencies, serologists and other forensic scientists, can greatly add to the research and the analysis consequently reaching the truth. Indeed, the results of the various experts working as a team and discussing the case at all stages of the investigation comes as a tremendous helping hand as to what each expert does individually.

References: