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Original Research Article

Study of Disparity of Opinion Between Anatomical Examination of Bones and Police History in Medicolegal Cases

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Disparity of opinion.

Abstract

Background: Whenever skeletal remains/ bones were recovered, the investigation officer usually send it for anatomical examination for giving opinion about source, age, sex, stature, and injuries on the bone. Anatomical bone examination is carried out in disputed cases with respect to identification and cause of death from the skeletal remains. Against this background, the present study is being carried out to find out any disparity of anatomical opinion of bone from the police opinion based on the history. **Methods:** A cross-sectional study was carried out in the department of anatomy at government medical college, Nagpur. It included a total of 256 medicolegal cases for anatomical opinion from skeletal remains during 11 year study period. Then the percentage of disparity between anatomical opinion and police history has been calculated with respect to its source, age and sex. **Results:** The disparity between anatomical opinion and police history was noted in 8.98% in source, 20.56% in gender and 26.52% in age opinion. **Conclusions:** Anatomical bone examination plays an important role in the further investigation of the case and it gives direction to the investigation agencies in disputed cases.

1. Introduction

Anatomical examination of a bone in medicolegal case is a special type of investigation carried out in disputed cases. Recovered skeletal remain is the biggest challenge for the forensic expert and anatomist to give opinion with respect to identification of the deceased and the cause of death. The first question comes in the mind of investigating police officer after getting skeletal bones is where to send these remains.¹

The investigating officer usually sends such skeletal remains to forensic medicine department for

determination of cause of death; and then referred to the department of anatomy for further anatomical examination. In India, the medicolegal examination of bones are carried out by forensic department in some states.² However, in the state of Maharashtra, department of anatomy in most of the government medical colleges is authorized for anatomical examination of bones in medicolegal cases³ for giving opinion about source, age, sex, stature and injuries on the bone.¹ Against this background, the present study is being carried out

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with a view to find out the disparity of opinion in medicolegal cases.

2. Methods:

The present cross-sectional study has been carried out in the department of anatomy at government medical college, Nagpur during the period January 2004 to December 2014. This is an authorized Apex Medical centre where bones were sent all across the Vidarbha region of Maharashtra for anatomical examination. A total of 256 medicolegal cases were examined in this apex centre during the study period; and were included in the present study with an average of 23.27 medicolegal cases per year. Most of the information of the deceased about age, sex, place of retrieval, condition of body and manner

of death along with the history was gathered from the accompanying police papers after preliminary police investigation. Almost 50% medicolegal cases were recovered by police from the forest, barren land and farm; and 25% were retrieved from water bodies like lake, river, well, canal, septic tank and water tank. Anatomical examination report also provides confirmative information regarding age, sex, source, stature, injury, etc. Considering police papers and anatomical report of each medicolegal case, present study is conducted with a view to find out any disparity of anatomical opinion from the police history.

The percentage of disparity with respect to source, sex and age is calculated as follows:

$$\% \text{ of Disparity} = \frac{\text{Difference between anatomical opinion and police history}}{\text{Total number of particular cases}} \times 100$$

3. Results:

The body was usually found to be complete (21.09%) followed by partial (9.77%). The body was found in parts in 8.59% medicolegal cases (Fig. 1). The complete skeleton was recovered in 11.72% cases, but the remains in the form of dry, wet or separated bones were recovered in 41.02% cases. Only a piece of bone was available for anatomical opinion in 7.81% medicolegal cases. Thus, the bones were only available in 60% medicolegal cases referred by the investigating officer for anatomical opinion.

Fig 1: Distribution according to condition of body for anatomical examination.

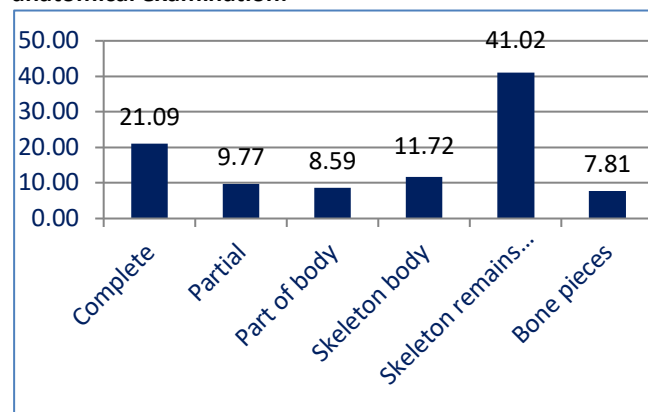


Fig 2 shows the distribution of source/ origin of medicolegal cases whether human or animal origin. After the anatomical opinion, 91.02% medicolegal cases belonged to human origin and 1.56% cases belonged to animal source. The source of skeletal remains was not known in 7.42% cases, mostly in

burnt bone pieces. Thus, the disparity between anatomical opinion and police history was noted in 23 medicolegal cases (8.98%).

Fig 2: Distribution of source of medicolegal cases.

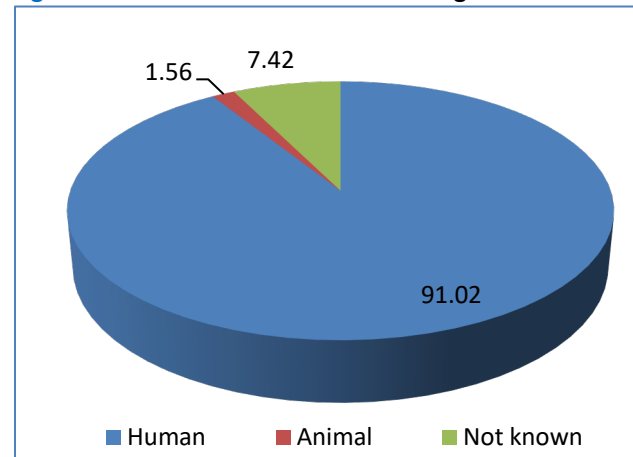


Table 1: Distribution of cases in relation to opinion for sex determination asked by police

Opinion for sex determination	Number	%
Asked by police	212	82.81
Not asked by police	44	17.19
Total	256	100.00

As per table 1, the anatomical opinion for sex determination was not asked by police in 17.19% (44 cases), as it was known and not required to confirm by the police due to availability of complete body and other evidence. Thus, as per table 2, the gender was confirmed as either male or female in 78.77% cases as per anatomical examination of bone from the

remaining 212 medicolegal cases. But, in 1.89% cases, the bones were turned out to be animal bones. However, in 71 medicolegal cases where the gender was not known as per police history, 41 turned out to be male and 8 females. The disparity between anatomical opinion and police history in male was found in 13.54% and in female in 35.56% cases. Thus, the overall disparity of opinion between anatomical opinion and police history in gender was observed in 20.56% out of 141 medicolegal cases.

Table 2: Distribution of medicolegal cases for sex disparity from anatomical examination of bone (n=212).

As per police history		As per anatomical examination of bone				Disparity	
Gender	Number	Male	Female	Not known	Animal	Number	%
Male	96	83	1	10	2	13	13.54
Female	45	5	29	11	0	16	35.56
Not known	71	41	8	20	2	-	-
Total	212	129	38	41	4	29	-
%	-	60.85	17.92	19.34	1.89	20.56	-

Table 3: Distribution according to opinion of age asked by police or not.

Opinion of age	Number	%
Asked by police	230	89.94
Not asked by police	26	10.16

Table 4: Distribution of disparity about age opinion.

Anatomical opinion about age	Number	%
Consistence with police history	147	63.91
Not consistence with police history	57	24.78
Not known	22	9.57
Animal	4	1.74
Total	230	100.00
Disparity	61	26.52

Thus, the disparity of opinion of age between anatomical opinion and police history was noticed in 26.52% medicolegal cases. (Table 4).

4. Discussion:

It is always a challenging task for the forensic and anatomy experts to give opinion in medicolegal case with respect to identification and cause of death from the skeletal remains. The Supreme Court of India has directed that the decomposed dead body should be referred to anatomy expert, especially when the bones of dead body are fallen out and are separated.⁴ In such cases, it is incumbent upon the doctor to have referred the matter to anatomy expert for skeletal identification, and failure of which is a serious lacuna to the prosecution case.^{4,5} In the present study, in

As shown in table 3, the opinion about age was not asked in 26 cases (10.16%) as the body was identified beyond doubt by the relatives of the deceased. Out of the remaining 230 medicolegal cases for bone examination, the anatomical opinion about age was given in 88.69% cases. It was consistent with the police history in 63.91% cases and not consistent in 24.78% cases; and in four cases (1.74%), the bones were found to be of animal origin.

almost 60% medicolegal cases, only the bones/skeleton were available for anatomical opinion with bone pieces in 7.81% cases. In such cases, opinion about the identity is usually requisitioned by the investigation agencies. It is purely given on the basis of bone examination after maceration by means of reconstructive identification like age, sex, stature, etc.²

In the present study, the bones were predominantly of human source with only 1.56% cases belonged to animal source as per anatomical opinion. In 7.42% cases, the source was not known even after anatomical examination due to small insufficient and charred bone pieces available for the opinion. Thus, the disparity of opinion was noted in 8.98% cases. The findings could not be compared as no such studies had been done earlier.

The opinion regarding age and sex from the anatomical examination of bone was not asked by the investigation officer in almost 10.16% and 17.19% cases respectively. The gender was confirmed as either male or female in 78.77% cases from bone examination with disparity of opinion between anatomical examination and police history in 20.56% medicolegal cases. Similarly, the anatomical opinion regarding age from bone examination was given in 88.69% with disparity of opinion between anatomical examination and police history in 26.52% medicolegal cases. These findings could not be compared as no similar studies had been carried out previously.

5. Conclusions:

Anatomical examination of bone is a special type of examination carried out to confirm the identity of the deceased in disputed medicolegal case. The disparity between anatomical opinion and police history was noted in 8.98% in source, 20.56% in gender and 26.52% in age opinion. Hence, anatomical examination of bones plays an important role in the further investigation of the case and it gives direction to the investigation agencies in disputed cases.

Ethical Clearance: IEC approval is taken from the Institutional Ethical committee.

Contributor ship of Author: All authors equally contributed.

Conflict of interest: None to declare.

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