Research Paper Medical Science

Identification in Forensics: A Short Communication

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ABSTRACT

Identification of unknown living or dead played a significant role in the field of forensic medicine. This article describes the basic methods that can methods can be employed to determine identity.

KEYWORDS | Identification, Forensic, birthmark, Finger Prints, Autopsy

Introduction

Once the remains have been identified as being human, a number of methods can be employed to determine identity. Common methods of identifying human remains — facial features, scars, birthmarks, tattoos, fingerprints, palm prints, and footprints. But these method of identification depends on preservation of the soft tissue components of the body in question. These methods are wanted when the remains are so decomposed, burned, mutilated, skeletonized, or fragmented that the surface topography is unrecognizable or featureless[1]. The most common means for establishing a positive identification is visual, external and internal characterstics of unknown.

Visual Identification

Visual identification is perhaps the most commonly used method of identification and is used to establish both positive and presumptive identification in which a family member or friend tells the police or emergency medical personnel. However, visual identification is one of the least reliable forms of identification and can be fraught with error. Comparison of the deceased to a photograph, whether from a driver's license or personal photo, is another form of visual identification. In many cases, however, the body may not be able to be identified visually. The face may also have sustained injuries that distort the features, severely limiting visual identification, including trauma or burning. The clothing a person is found wearing can be examined for size, brand, or any laundry marks. Clothing can also be compared to accounts from family and friends as to what the decedent was last seen wearing. Jewelery should be examined and can be compared to family/friends' descriptions, or it can be analyzed for personalization or traceable information (e.g., a class ring, an engraved locket). Personal effects with the body can also provide information, such as a cellular telephone, business cards, phone numbers, and keys. Eyeglasses and contact lenses can be examined and compared to the known history of a person [2].

External Characteristics

Many people have identifying characteristics on their bodies themselves that are unique enough to establish identity. Things such as body habitus, height, weight, eye color, sex, circumcision, stature, hair type (e.g. curly/straight, long/short), microscopic hair structure (e.g., oval, round, flat), and skin pigmentation can all be helpful attributes. Scars and tattoos are commonly used as identifying characteristics, especially when they are distinct in either nature or location, for instance, a scar from a burn or an injury, a keloid, or a unique tattoo. Birthmarks or nevi (moles) are often distinct and can be used for identification. The presence, location, and number of piercings may also be helpful [2].

Internal Characteristics (Autopsy)

An autopsy examination is commonly performed on unidentified bodies, and in most jurisdictions is required by law to be performed on such bodies. The presence or absence of certain diseases can be helpful in establishing identity, especially when medical records are available. Diseases such as coronary artery disease or cancer may be present. Conditions like cholelithiasis or nephrolithiasis (gallstones and kidney stones) may have been diagnosed prior to death. The absence of organs, due to either surgery or congenital malformation, can be distinctive. While surgeries like appendectomies, hysterectomies, and cholecystectomies are too common to be distinctive, splenectomies, nephrectomies, or other procedures may be more useful. The presence of suture material may also indicate a previous surgical procedure. Implanted devices, such as pacemakers or defribillators, can often be traced through the manufacturer to the recipient. Findings at autopsy may assist in determination of age, including the presence of arcussenilis (opaque ring surrounding the cornea), the presence of osteophyte formation along the vertebral bodies, and the closure of growth plates. Pulmonary anthracosis may indicate the decedent was a smoker, though significant anthracosis may be seen in coal miners who do not smoke. Other inhalational lung diseases may also provide information about the decedent's occupation, such as silicosis (sandblasting, quarrying, stone cutting) and asbestosis (mining, textile workers).A complete toxicologic evaluation should also be performed, even if not related to cause of death. The presence of certain medications or illicit chemicals may give information regarding lifestyle or possible medical facilities. In forensic anthropology the comparison of ante-mortem and post-mortem radiographs is one of the corner stones of positive identification of human remains [3]

Conclusion

Methods discussed in this paper are the basic identification methods which can be used at a primary level of investigation. Apart from all the above mentioned methods there are some modern technologies like DNA analysis and examination at molecular level can be used for identification purposes.

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