

Review article:

Overview: Use of modern embalming techniques in Anatomy Department

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Abstract:

Embalming is an art and science of preserving human body by specially treating them to prevent from decomposition and can be use for academic as well as nonacademic purpose. When a corpse is buried, the body will decompose by the actions of anaerobic bacteria. In many countries, corpses buried in coffins are embalmed. An embalmer may prepare the corpse for a lifelike appearance. Embalming fluid is then pumped into the body via a common carotid or femoral artery. This by rehydration process reduces decomposition and maintains structural stability. In worldwide there are controversy opinions over embalming practices. Most of time embalming is done for research and dissection purpose in medical colleges. Sometimes it may be done for preserving body for some days due to delay in funeral process due to some reasons etc. Religious faiths are the major obstacle in embalming practices in worldwide scenario. There is need to change mindset of people. However it is promising fact that nowadays there are dramatic changes in attitude of people.

Keywords: Embalming, human body

Introduction:

Embalming is an art and science of preserving human body by specially treating them to prevent from decomposition and can be use for academic as well as nonacademic purpose. When a corpse is buried, the body will decompose by the actions of anaerobic bacteria. In many countries, corpses buried in coffins are embalmed. An embalmer may prepare the corpse for a lifelike appearance. Embalming fluid is then pumped into the body via a common carotid or femoral artery. This by rehydration process reduces decomposition and maintains structural stability.

In worldwide there are controversy opinions over embalming practices. Most of time embalming is done for research and dissection purpose in medical colleges. Sometimes it may be done for preserving body for some days due to delay in funeral process due to some reasons etc. Religious faiths are the major obstacle in embalming practices in worldwide scenario. There is need to change mindset of people. However it is promising fact that nowadays there are dramatic changes in attitude of people.

The bodies can be maintaining for about 3-4 years by this process.

The basic three goals of embalming are as **sanitization, presentation and preservation**. The sanitization means prevent these bodies from decomposition. The presentation means these bodies can be preserve for funeral process if delayed due to any social reason etc. While preservation means maintain these bodies for research or teaching purpose. The embalming is one of most important necessary process in maintain bodies for dissection for 1-2 years in dissection hall and handle by medical students.

Historical facts :

The embalming has a long traditional, societal and cultural history.

The Chinchorro culture in the Atacama desert of present day Chile and Peru are among the earliest cultures known to have performed artificial mummification as early as 5000-6000 BC. Perhaps the ancient culture that had developed embalming to the greatest extent was that of Egypt, where as early as the first dynasty (3200 BC) specialized priests were in charge of embalming and mummification. The Ancient Egyptians believed that preservation of the mummy empowered the soul after death, the latter of which would return to the preserved corpse.

In the 19th and early 20th centuries arsenic was frequently used as an embalming fluid but has since been supplanted by other more effective and less toxic chemicals. Embalming is different from taxidermy. Embalming preserves the human body intact, whereas taxidermy is the recreation of an animal's form often using only the creature's skin mounted on an anatomical form. Modern embalming is most often performed to ensure a better presentation of the deceased for viewing by friends and relatives – as everything else being equal, an embalmed body will look better than one that is unembalmed and putrefying. In the United Kingdom, where open casket funerals are extremely rare, embalming is still used in many funeral homes.

A typical embalming takes several hours to complete.

Chemicals

Typical embalming fluid contains a mixture of formaldehyde, glutaraldehyde, ethanol, humectants, and wetting agents and other solvents that can be used. The formaldehyde content generally ranges from 5 to 35 percent and the ethanol content may range from 9 to 56 percent.

Long-term preservation requires different techniques, such as using stronger preservative chemicals and multiple injection sites to ensure thorough saturation of body tissues.

Modern practices

The actual embalming process usually involves four parts:

1. **Arterial embalming**, which involves the injection of embalming chemicals into the blood vessels, usually via the right common carotid artery. Blood and interstitial fluids are displaced by this injection and, along with excess arterial solution, are expelled from the right jugular vein and collectively referred to as drainage. The embalming solution is injected with a centrifugal pump and the embalmer massages the body to break up circulatory clots as to ensure the proper distribution of the embalming fluid. This process of raising vessels with injection and drainage from a solitary location is known as a single-point injection.

2. **Cavity embalming** refers to the replacement of internal fluids inside body cavities with embalming chemicals via the use of an aspirator and trocar.
3. **Hypodermic embalming** is a supplemental method which refers to the injection of embalming chemicals into tissue with a hypodermic needle and syringe, which is generally used as needed on a case by case basis to treat areas where arterial fluid has not been successfully distributed during the main arterial injection.
4. **Surface embalming**, another supplemental method, utilizes embalming chemicals to preserve and restore areas directly on the skin's surface and other superficial areas as well as areas of damage such as from accident, decomposition, cancerous growth or skin donation.

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