AN ALTERNATIVE METHOD OF INJECTING EMBALMING FLUID AND LATEX, IN PREPARATION FOR PLASTINATION

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We are all familiar with the fact that, provided there is no obstruction in the blood vessels, the embalming fluid circulates readily and infiltrates the tissue of the cadaver. We attempted different entrances into the blood circulatory system to find an easy and uncomplicated method, which would not disturb important anatomical areas and one that could be performed by persons with little or no knowledge of anatomy.

Traditional embalming methods include intra-arterial injection into the carotid or femoral artery, as well as intracardiac injection. All these methods, even when correctly executed, have certain disadvantages.

An intricate procedure is required when using the carotid or femoral arteries because a reasonable knowledge or experience of these areas is necessary. Further, there are, in both cases, structures that could be damaged. In both cases there are large adjacent veins which could be punctured, with the result that blood and embalming fluid leak out. These arteries are deeply situated and therefore require longer skin incisions to insert the tiedown strings. Two cannulae have to be introduced, one distally and one proximally, due to too small anastomoses. Such an incision is often a cause for the disturbance of the relationship between different anatomical structures.

The most significant advantage of the method of embalming under consideration, is the use of larger blood-vessels which decreases the time-span required to complete the process. In those instances where the carotid artery is used, the brain can be fixated with formalin, prior to the embalming process, without having to drill a hole into the skull for the injection of formalin.

Intra-cardiac injection appears to be an easy method which apparently does not disturb the anatomy of the cadaver. Our experience indicates that considerable experience is required to insert the needle correctly into the left ventricle. In practice it often occurred that the needle was inserted laterally of the left ventricle or right through it into the pleural cavity.

Although the cadaver was infiltrated adequately with the embalming fluid, the lungs, heart and blood vessels were totally compressed.

Another disadvantage is the unnecessary loss of embalming fluid through the mouth. In the case of intra-arterial methods, the aorta valves function without the use of muscles, and prohibit the reflux of embalming fluid via the lungs and trachea through the mouth. However, in the case of the intra-cardiac method into the left ventricle, muscular action is required for the actions of the valves between the left atrium and the left ventricle to prevent the reflux.

The embalming method which best suits our needs, is the intra-arterial injection into the radial artery. The position thereof at the radial pulse can even be determined by untrained staff. Only a slight skin incision is required to insert a small canula proximally into the artery. The same artery can, at a later stage, be used for latex injection. Approximately 550 cadavers have been embalmed by this method and in only one case was this method unsuccessful. This was due to a radial artery which was exceptionally small in diameter, most probably a congenital abnormality. The only significant disadvantage of the radial arterial injection, is that it takes +/- 4 hours to complete. Instead of 2 hours as is the case when compared to femoral or carotid artery injection.

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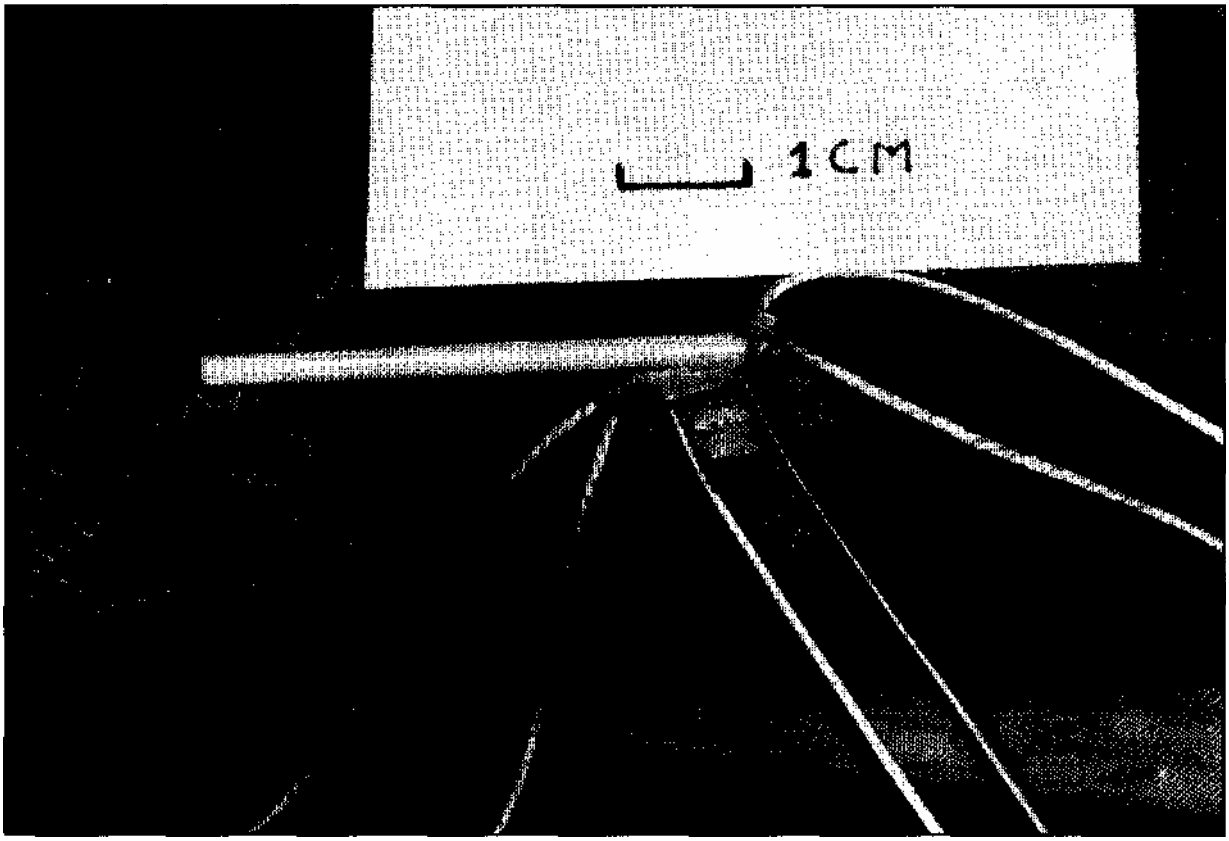

A cannula is inserted into the radial artery. Distal to the cannula the radial artery is sealed and embalming fluid reaches the hand via the ulnar artery.