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POSTMORTEM DEGENERATION OF ELASTIC TISSUE OF BLOOD VESSELS AND TIME SINCE DEATH – A PRELIMINARY STUDY

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In medicolegal autopsies where time at the moment of death is not known its estimation becomes relevant. Where such time has been witnessed its confirmation by independent medical evidence is again of value. No Published data is available concerning the usefulness of changes in the elastic tissues of muscular and elastic arteries in estimating time since death. The Objective of study is to find a method of estimating time since death from the elastic tissues of the aorta and renal artery.

Study 1

The renal artery and the aorta at the level of the renal artery were collected and fixed at 11 postmortem examinations and studied. Time since death ranged from 3 to 33 ¾ hrs.

Study 2

An aorta was resected at autopsy from a body with known time since death. The aorta was serially sectioned and fixed between 10 ¼ and 57 ¼ hrs.

Sections were processed and the paraffin sections subsequently stained for elastic tissue using the Verhoeff's technique. The sections were studied under the light microscope at a magnification of 40 and presence/absence of elastic tissue was noted.

In study 1 elastic tissue was present intact as far as 33 ¾ hrs. in the aorta and 29 ¾ hrs. in the renal artery.

In study 2 elastic tissue was present unchanged even up to 57 ¼ hrs.

Conclusion

Elastic tissue of the aorta per se is not useful in estimating the Time since death in the first 57 ¼ hrs. after death.

Elastic tissue in the renal artery per se is not useful in estimating time since death in the first 29 ¾ hrs. after death.

Further studies will be carried out to detect the time at which the elastic tissue starts to degenerate. This method maybe useful in predicting time since death as an upper / lower limit.