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Minimally Invasive Autopsy with MRI an Acceptable Alternative

Minimally invasive autopsy using MRI could be an acceptable alternative to traditional autopsies, according to a new study.

The study, published online in The Lancet, assessed the accuracy of whole body, post-mortem MRI for detection of major pathological lesions associated with death in a prospective cohort of foetuses and children. Consent rates for neonatal autopsy have been declining in the UK, mainly due to parental objection. Post-mortem MRI is on offer but evidence for its accuracy is scarce.

The study was on an unselected population of foetuses (≤24 weeks' or >24 weeks' gestation) and children (aged <16 years) at two UK centres in London between March 1, 2007 and Sept 30, 2011.

The study assessed MRI findings alone, with other minimally invasive post-mortem tests for detecting cause of death or major pathological abnormalities. A radiologist and pathologist who were blinded to the autopsy findings indicated whether the minimally invasive autopsy would have
been sufficient.

The primary outcome was concordance rate between minimally invasive and conventional autopsy.
400 cases were analysed, of which 277 (69%) were foetuses and 123 (31%) were children.

Cause of death or major pathological lesion detected by minimally invasive autopsy was concordant with conventional autopsy in the majority of cases 357 (89·3 percent)

The dedicated radiologist or pathologist review of the
minimally invasive autopsy showed that in 165 (41 percent) cases a full autopsy might not have been needed

The authors conclude that minimally invasive autopsy could be an acceptable alternative to conventional autopsy in selected cases, if undertaken by pathologists and radiologists.

Reference:
Post-mortem MRI versus conventional autopsy in fetuses and children: a prospective validation study
Sudhin Thayyil et al. The Lancet. Published Online May 16, 2013 http://dx.doi.org/10.1016/ S0140-6736(13)60134-8

Published on : Mon, 20 May 2013