

Minimally invasive autopsy for fetuses and children based on a combination of post-mortem MRI and endoscopic examination: a feasibility study

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Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

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Plain English summary

Feasibility study of minimally invasive autopsy for fetuses and children

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Plain English summary

An autopsy (post-mortem) examination of babies and children who die is often necessary to help doctors or coroners find out the cause of death. It may also be useful for research. However, many bereaved parents dislike the idea of their child being cut and some religious communities prohibit the procedure. Over the past 30 years, consent rates for autopsies have declined. In order to address parental concerns and declining uptake, a number of less invasive options have been developed. These include X-ray and magnetic resonance imaging, by doing keyhole internal examination and needle organ biopsy. However, it is not known to what extent such methods are acceptable to parents, nor how accurate they are.

We surveyed the attitudes of bereaved parents and religious group leaders to such less invasive methods. The less invasive option was considered acceptable and would be chosen by almost 1000 bereaved parents. Such an approach is also acceptable to those religious groups for whom standard autopsy examination is not.

We also examined a database of > 5000 standard autopsies to determine the extent to which specific internal organ biopsy contributed to the diagnosis. In > 5000 standard autopsies, traditional organ biopsy rarely contributed to determination of the cause of death or the main diagnosis.

Therefore, a more limited and targeted tissue sampling protocol could be introduced without significant reduction in the accuracy of final diagnosis. The specific approaches required will depend on individual circumstances and are likely to include a range, from targeted organ biopsy with an open incision, through incisionless image-guided needle biopsies, to non-invasive imaging-only techniques. Future studies may focus on how the NHS could implement offering less invasive approaches nationally, what the cost-benefit of such an approach could be and what the impact could be on real-world uptake if this were to be offered routinely.

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