Death of the teaching autopsy

Gregory O'Grady

Curriculum pressures and a decline in hospital autopsy rates have reduced the opportunity for medical students to learn from autopsy findings

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The use of autopsies to teach medical students has been falling worldwide over the past few decades. In 2002, however, Auckland, New Zealand, took the unprecedented step of legally prohibiting students from attending autopsy teaching, by barring them access to coronial autopsies. The decision means that students are denied a highly effective and popular learning resource and the autopsy is likely to decline further in clinical practice. The ultimate losers will be patients. This article examines the evidence supporting the relevance of autopsy in medical education and practice.

Auckland experience

Until recently, learning from autopsy was vibrant in Auckland. Many medical students from third year and above voluntarily attended daily autopsy teaching, and were enthusiastic about this method of learning. However, in early 2002, students were banned from attending coronial autopsies under an interpretation of New Zealand's Coroners Act. The decision was made in the environment following widespread media coverage of the discovery that children's hearts removed at autopsies had been retained for teaching without the family's consent in past decades.[1] Media reporting of body organ retention has been noted to increase the negative perception of the autopsy and could result in a further fall from use.[2]

GIRAUDON/BAL

Learning from autopsy

Decline of autopsy

At the beginning of the 20th century, autopsy had a fundamental role in medical education, guided by the influential Oslerian philosophy. Students not only attended autopsies, they learnt to conduct them.[3] In contrast, today fewer than half of American medical schools require attendance at autopsy, and most students graduate without attending a single session.[4]

The demise in the educational role of autopsy has followed its decline in hospital practice. The autopsy rate for patients dying in hospital has dropped steeply over the past 40 years in New Zealand, the United Kingdom,[2] and the United States.[5] Too few hospital autopsies are now conducted in Auckland to provide a useful teaching resource, although rates of coronial autopsies have remained relatively steady. Perhaps the main reason for the fall is an increased confidence in new methods of diagnosis, particularly modern imaging techniques.[2 6–8] Other reasons include doctors' discomfort in requesting permission from families, cost containment, and doubts about the value of the procedure.[2 5–7] Fear of malpractice suits and pathologist apathy may also have had a role.[5 7] Even when an autopsy is performed, the information is often underused, with unacceptable delays in reporting and a lack of participation from the clinicians involved.[7–9]

Educational role of autopsy

Hill and Anderson identified core areas of knowledge that can be learnt effectively by attending autopsy (box).[10] Attendance also heightens awareness of the large number of patients with multiple conditions, and the level of uncertainty in medicine[11]; this experience is not easily gained elsewhere. Furthermore, autopsies raise opportunities to discuss ethical and legal aspects of death and death certification, as well as increasing empathy for dying patients and their families.[10 11]

Even in the first two years of medical education, the autopsy has been shown to foster deductive reasoning, integration of diverse material, and clinical problem solving.[12] These skills are well beyond the focus of pathology.

Most students describe autopsies as educationally useful, although 20% find them distasteful.[13] Postgraduate students may also benefit from teaching based on autopsy.[6 11]

Summary points

Autopsies no longer have a major role in medical teaching and their use has been effectively prohibited in Auckland

Teaching based on autopsy teaches valuable skills, some of which are not easily learnt elsewhere

Doctors who have not had autopsy based teaching as undergraduates are unlikely to request them

Reasons for the decline in autopsy based teaching include limited curriculum time, competing departmental demands and insufficient hospital autopsies.[10] Hill and Anderson observed that instructors were unified in their belief in the autopsy as a teaching tool yet constantly finding reasons not to include them in the curriculum.[10]

Clinical role of autopsy

The autopsy still has a vital role in auditing medical care despite improvements in diagnostic techniques. This is highlighted by studies showing important discrepancies between clinical diagnoses and postmortem findings of patients dying in hospital.[14 15] Clinicians may also find it difficult to predict which patients are likely to show such discrepancies.[16]

However, the fall of autopsy-based teaching has meant that few students are aware of its role in quality control. Indeed, students who graduate without autopsy experience will request an autopsy only if other techniques have failed to show a clear cause of death.[17]

The autopsy also continues to have an important role in understanding disease and informing public health and research. A recent history cited over 80 major conditions discovered or critically clarified by autopsy since 1950 and suggested there were, perhaps, thousands more minor examples.[3]

Core skills learnt from autopsies

Clinicopathological correlation
Pathophysiology
Anatomy
Observation skills

Advocating autopsies

Without exposure to autopsy, clinicians are unlikely to become advocates of autopsy[6 10] or have the skills necessary for sensitively requesting postmortem examinations.[18] The public generally accepts the need for autopsy, but families are unlikely to grant consent if they feel stressed or do not fully understand why a postmortem is required.[19] Doctors cannot explain the need if they do not understand it themselves. Concerns about bodily disfigurement from autopsy, which is one of the largest sources of concern for families,[6 19] can also often be allayed—for example, by comparing the autopsy to an operation.[7] Most religions do not condemn the autopsy.[20]

Modern politically correct attitudes should pose no barrier to the autopsy. Indeed, such attitudes should be an ally, sharpening sensitivities in communicating with families and encouraging rapid and compassionate communication of results.

Contributors and sources: GO'G routinely attended autopsy teaching while an undergraduate student at Auckland.

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Commentary: Resuscitating the teaching autopsy

James Underwood

O'Grady rightly laments the exclusion of students from coroner's autopsies in New Zealand. With the worrying decline in the hospital autopsy rate, coroner's cases (about 90% of autopsies in the United Kingdom) are now the main opportunity for medical student teaching.

I am not aware of any similar restriction in the United Kingdom, and there is nothing in the Coroner's Rules 1984 that would automatically prohibit medical students, nurses, or police trainees from attending. Coroner's Rule 7(4) is relevant: "Nothing in the foregoing provisions of this Rule shall be deemed to limit

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the discretion of the coroner to notify any person of the date, hour and place at which a post-mortem examination will be made and to permit him to attend the examination." Coroners are thus empowered to decide who may attend; this may be on an individual case basis or according to a general agreement between the pathologist and coroner.

Those attending autopsies must, of course, respect the medical confidentiality of the deceased and his or her family. They should also understand that information gleaned from the autopsy about the case is, in a sense, owned and controlled by the coroner. Furthermore, although students can attend as observers, pathologists can make examinations only that will contribute to determination of the cause of death. They cannot extend the autopsy dissection and examination solely to serve the learning needs of medical students.

Public concerns

The New Zealand situation has arisen because of legitimate public concerns about organ retention. However, banning students from autopsies ultimately risks worsening the discomfort of bereaved families. Relatives naturally turn to doctors and other healthcare professionals for help and advice when they are asked to consent to an autopsy or one is required by law. With coroner's autopsies now being the main opportunity for learning about the medical examination of the body after death, the new generation of doctors will find themselves struggling to explain a procedure they have rarely or never witnessed.

I share O'Grady's enthusiasm for the autopsy as a teaching medium. Zealous overinterpretation of coroner's legislation is not the only factor contributing to the moribund state of the teaching autopsy. Many mortuaries are dilapidated or poorly designed with inadequate viewing facilities. In the United Kingdom, perhaps autopsy education should feature in the training of preregistration and junior house officers, thus remedying the deficiencies of the undergraduate experience.

The root cause of the New Zealand situation is apparently a belief that bereaved relatives might resent students witnessing the autopsy. My experience of families deeply affected by organ retention is that their objection is not necessarily to what was done but that it had been done without their knowledge or, where required, their agreement. There will be exceptions, but bereaved people generally want some good to come from their grief. If medical students can learn from the death, it may be some consolation that future patients could benefit.

Competing interests: I am President of the Royal College of Pathologists and led the production of the college's guidelines on organ retention (2000). I am an observer on the Retained Organs Commission and am paid to do coroner's autopsies.

Obtaining consent for autopsy

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Consent for autopsy is usually obtained by the consultant in charge of the case. Given the detailed information now required, should pathologists take on this role?

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The recent controversy about organ retention has led to big changes in the information given to bereaved families. Professional bodies continue to advocate that the clinical consultant in charge of the case has the primary role in the hospital's interaction with relatives at this time.[1] However, their unfamiliarity with autopsy procedures could lead to discrepancies between what is discussed and what the pathologist actually does. As the only pathologist at my hospital, I have taken on responsibility for giving information to relatives and completing autopsy documentation. Although not without its difficulties, this meeting leads to a transparency beneficial to both parents and the pathologist.

Public disquiet changes practice

The Bristol Royal Infirmary inquiry into deaths of babies having heart surgery caused widespread public concern about the quality of information delivered to families about postmortem examinations.[2] There was particular disquiet that parents had not been specifically informed that this procedure would entail the retention of whole organs for detailed laboratory examination. Similar revelations at other hospitals and in other countries, including Ireland and Australia, prompted a series of public and private inquiries and have resulted in radical changes to the procedures used for conveying information and obtaining consent for postmortem examinations (box 1).[1 3 4]

AMY ECKERT/PHOTONICA

Bereaved parents need a full understanding of postmortem proceedings