

# Performance of autopsies in South Africa: Selected legal and ethical perspectives

*In South Africa, academic and/or anatomical pathology autopsies are conducted in terms of the Human Tissue Act (Act 65 of 1983).*

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Autopsies (from the Greek word *autopsia*, meaning 'to see with one's own eyes'), have been performed for centuries, in one form or the other, to learn about the form and inner workings of the human body and to ascertain the cause of death in deceased individuals.<sup>1</sup> In time, two distinct settings for the autopsy have developed, with academic or *anatomical pathology autopsies* being conducted in order to establish the nature and extent of underlying natural disease, but also to enable academics to teach students and to perform research. On the other hand, *medico-legal autopsies* are routinely performed in terms of statutory provisions which mandate the examination of bodies of deceased individuals who have died as a result of other than natural causes (or where the cause of death is not apparent or of an unexpected nature), in order to facilitate further legal decisions and proceedings.

In South Africa academic and/or anatomical pathology autopsies are conducted in terms of the Human Tissue Act (Act 65 of 1983). In these cases the attending physician and/or pathologist should be satisfied that the following two preconditions have been met prior to undertaking the autopsy: that the deceased had probably died as a result of natural causes *and* that consent has been obtained for the postmortem examination

to be performed. If there is a reasonable possibility that death had been the result of other than natural causes, the matter should be reported to the police for further investigation in terms of the Inquests Act (Act 58 of 1959). However, where the attending clinician is satisfied that death was due to natural causes, he or she may issue such a certificate, despite not knowing with certainty what the pathological diagnosis is. In such cases it may be prudent to request an anatomical pathology autopsy. Permission to perform an academic/anatomical pathology autopsy may be obtained from the deceased before his or her death or in terms of a will, or from his next of kin, after death has taken place. It is worth noting that the Human Tissue Act is currently in the process of being revised and will in all probability soon be incorporated into the National Health Act.

## **Anatomical pathology autopsy**

Anatomical pathology autopsies provide an opportunity to fully investigate the nature and extent of disease, associated complications and co-morbid conditions, and as such the autopsy is an excellent tool to inform clinicians and to arrive at a clinico-pathological correlation.<sup>2</sup> It may also provide valuable information for the next of kin and closure in cases of uncertainty, as well as providing information which may

be of benefit to surviving family members (siblings and children, in cases of certain familial disease).

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In addition, the regular performance of anatomical autopsies provides excellent opportunity for individual and institutional quality control and clinical audit.<sup>3</sup> Many published articles have shown that, despite recent advances in medical technology and diagnostic capacity, significant discrepancies still exist between clinical diagnosis and diagnosis made at autopsy. The incidence of significant differences between autopsy findings and clinical diagnosis varies between 20% and 40%, suggesting that in one or two out of five deceased individuals upon whom autopsies are performed, the main clinical diagnosis is not confirmed or supported at autopsy.<sup>4-6</sup>

## Autopsies

It has been said that clinicians and health care institutions avoid requesting anatomical pathology autopsies, since such missed (or wrong) diagnoses may constitute grounds for subsequent litigation and/or legal proceedings. Interestingly, a review of 99 Appeals Court decisions in medical malpractice cases has shown that such proceedings were not instituted on the basis of autopsy findings, but rather on standard of care issues – and that the performance of an autopsy is not likely to precipitate malpractice proceedings.<sup>7</sup> Indeed, it may be that the medical profession (individually and collectively) will be better served if autopsies are requested more often in cases where some uncertainties pertaining to diagnosis may exist. It has been argued that healthcare institutions should be subjected to prescribed minimum autopsy rates on patients dying within such institutions, in order to retain accreditation. Such enforced regulatory practices are probably not advisable, but the profession as a whole may be well advised to implement logistic and administrative measures, to facilitate the performance of anatomical pathology

autopsies on a more regular basis. Funding for such examinations could come jointly from contributions made by the state, medical aid and insurance companies, hospital budgets (state and private sector) as well as from doctors (or their indemnity organisations) and patients.

It has been stated that congenital cardiac abnormalities account for up to 90% of cardiac diseases in children and although the causes are multifactorial, genetic causes do play a role in some instances.<sup>8</sup> In such cases autopsy may be of great value to parents and siblings. Unfortunately, the recent economic downturn has resulted in severe financial cutbacks and health expenditure constraints, further limiting resources which may previously have been available for services such as autopsies.

### The regular performance of anatomical autopsies provides excellent opportunity for individual and institutional quality control and clinical audit.

In Massachusetts General Hospital the autopsy rate for the first five decades of the previous century varied between 20% and 40% of patients who died in the hospital. During the sixth and seventh decades this figure rose to 50%. However, it has subsequently dropped to a figure of 13%.<sup>1</sup> This decline in the autopsy rate (which indeed appears to be a universal phenomenon) does not only compromise clinical audit and diagnostic verification, but seriously compromises the teaching of under- and postgraduate students, both in terms of the teaching of autopsy practice and technique as well as in the macroscopic and microscopic diagnosis of disease conditions.

#### Medico-legal postmortem examinations

These examinations are conducted primarily in terms of the Inquests Act, as part of the medico-legal investigation of deaths which may have been due to other

than natural causes. The latter concept ('other than natural death') has only recently been defined in terms of statute in the Regulations Regarding the Rendering of Forensic Pathology Services (Government Gazette, R341), promulgated in terms of the National Health Act (Act 61 of 2003). These regulations further define an autopsy as 'a post mortem dissection of a corpse' and define postmortem examination as 'an examination of a human body or the remains thereof, with the purpose of establishing the cause of death and factors associated with the death and may include an autopsy'. In terms of these statutory provisions, unexplained or unexplained deaths should be investigated in conjunction with the police, although such investigation may not necessarily include the performance of an autopsy. In cases where the attending physician is satisfied that the death had been due to natural causes, although the precise nature and/or extent of disease or complication may be obscure, a certificate of natural cause of death may be issued, although it would then be advisable to request an anatomical pathology autopsy to be conducted.

Medico-legal autopsies are preformed in terms of prescribed statutory provisions, with no consent being required from the next of kin and may only be performed by authorised medical practitioners (who have been specifically appointed to perform such examinations). Unfortunately, the huge burden of non-natural death cases which have to be thus examined annually in South Africa (due to our exceptionally high levels of interpersonal violence, road traffic fatalities and accidental as well as suicidal deaths), cannot be adequately handled by the relatively small number of qualified forensic pathologists. It has been estimated that some 70 000 medico-legal autopsies must be carried out annually in South Africa. It is inevitable that many thousands of these autopsies will be conducted by colleagues who have little or no formal training in autopsy pathology and technique. In addition, poor facilities and the lack of other resources (such as a modern forensic toxicology service) unfortunately contribute to many instances where the judicial and administrative processes surrounding death (including, for example, life insurance

policy pay-outs and winding up of estates) are compromised.

The retention and use of tissues obtained at postmortem examination has become a very contentious matter and is governed by the Human Tissue Act (for anatomical pathology postmortem examinations) and by the Inquests Act and the Criminal Procedure Act (for medico-legal postmortem examinations). The Health Professions Council of South Africa prescribes that a medical practitioner may use organs or tissues 'only for research, educational, training or prescribed purposes' and that the retention of these organs shall be subject 'to the express written consent given by the patient concerned during his or her lifetime; in the case of a minor under the age of 14 years, to the written consent of such minor's parent or guardian; or in the case of a deceased patient who had not previously given such consent, to the written consent of his or her next of kin or the executor of his or her estate' (Ethical and Professional Rules of the Health Professions Council of South Africa, Government Gazette R717/2007). However, the Human Tissue Act also provides that the Director-General of Health may give consent to the use of human tissue obtained at autopsy, for purposes of research, training and preparation of diagnostic or therapeutic substances, if certain prescribed conditions have been met. Where it is important to retain tissues and/or organs at the time of performing an anatomical pathology autopsy, it is imperative that the next of kin be accordingly informed and that appropriate consent be obtained – and that appropriate further management of the remains be stipulated, also with regard to subsequent disposal of such tissues. This may be particularly important in cases where 'emotive' organs or tissues (such as heart, brain, eyes, etc.) may be involved.<sup>9</sup>

It is clear that a concerted effort is required to prevent the continued decline of the anatomic pathology autopsy as a valuable tool for purposes of diagnostic audit, clinico-pathological correlation, for teaching and

training of medical students and for purposes of research. However, new and alternative techniques should increasingly also be considered in this regard. Sophisticated CT scanning and MRI technology have contributed to the development of the 'virtopsy',<sup>10</sup> whereby invasive techniques or dissection are replaced by sophisticated postmortem imaging techniques. In many instances the latter can be augmented by the use of limited autopsy techniques (such as acquisition of postmortem needle samples and aspirations). In addition, 'molecular autopsies' are becoming increasingly useful, in order to assist in the diagnosis of non-structural disease processes which may be difficult to diagnose by conventional autopsy technique.

**The incidence of significant differences between autopsy findings and clinical diagnosis varies between 20% and 40%, suggesting that in one or two out of five deceased individuals upon whom autopsies are performed, the main clinical diagnosis is not confirmed or supported at autopsy.**

To conclude, the autopsy remains a very valuable yet under-used tool in South Africa. To quote Atul Gawande: 'I want to think that my patient's condition is as predictable as the sun's rising, as the melting of an ice cube, and maybe I have to. But I have been around long enough to know that in human beings the simplest certainties can be dashed. Whether with living patients or cadavers, we do not know, until we look.'<sup>11</sup>

References available at [www.cmej.org.za](http://www.cmej.org.za)

## IN A NUTSHELL

- Anatomical pathology autopsies are performed in terms of the Human Tissue Act to establish the nature and extent of underlying natural disease and to teach and train healthcare professionals. Specific consent is required.
- Medico-legal autopsies are conducted in terms of (primarily) the Inquests Act and are mandated by law, thus requiring no consent from next of kin.
- There has been a substantial drop in the numbers of anatomical pathology autopsies in most countries, which may adversely affect teaching, research, diagnostic audit and, ultimately, patient care.
- Studies have shown that there are still significant discrepancies between clinical and autopsy diagnoses. Academic autopsies thus provide an excellent tool for individual and institutional audit and quality control.
- There should be strict adherence to legislative and ethical guidelines when retaining organs or tissues at autopsy.
- Sophisticated radiological techniques, together with other technological advances and investigative tools, can now be used to augment or replace conventional autopsy dissection in some instances.