FAILURE TO PERFORM AUTOPSIES MEANS SOME MDs "WALKING IN A FOG OF MISPLACED OPTIMISM"

Fran Lowry

In Brief • En bref

Once the cornerstone of medical-school training because they taught the fundamentals of anatomy and the ravages of disease, autopsies are now done so infrequently that many of today's doctors graduate from medical school without ever having seen one performed. In 1950, 50% of deaths were followed by autopsy; in 1995, that rate has dropped as low as 7% in some North American hospitals. Critics say the procedure is expensive and that modern diagnostic technologies will reveal all they need to know about a particular disease process or illness; some physicians also fear lawsuits might be launched if autopsy data reveal they made an incorrect diagnosis. However, pathologists insist that the true value of autopsies is the quality assurance and ongoing education that they provide.

Il fut un temps où les autopsies étaient la pierre angulaire de la formation aux facultés de médecine parce qu'on y enseignait les éléments fondamentaux de l'anatomie et les ravages de la maladie. Elles sont toutefois devenues tellement rares qu'un grand nombre des médecins d'aujourd'hui obtiennent leur diplôme en médecine sans avoir jamais assisté à une autopsie. En 1950, 50 % des décès étaient suivis d'une autopsie; ce taux était tombé à 7 % à peine en 1995, dans certains hôpitaux nord-américains. Des critiques affirment que l'intervention est coûteuse et que les techniques modernes de diagnostic révéleront tout ce qu'ils ont besoin de savoir sur un processus morbide ou sur une maladie en particulier. Certains médecins craignent aussi les poursuites en justice si les résultats d'autopsie révèlent qu'ils se sont trompés dans leur diagnostic. Les pathologistes insistent toutefois sur le fait que la valeur véritable des autopsies réside dans le contrôle de la qualité et l'éducation continue qu'elles offrent.

In every episode of a popular British TV mystery series, *Morse*, there is a scene in which the chief inspector is in a morgue, peering squeamishly at a corpse on the autopsy table and pestering a grumpy and usually hungover pathologist to tell him the exact time and cause of death. In detective stories, it would appear, autopsies are a way of life.

But in the real world, autopsies are performed following only a small fraction of deaths. Today, pathologists fear that if the trend toward the diminishing importance of autopsies continues, the procedure might disappear from modern medicine.

In the last 45 years, the autopsy rate has been dropping steadily. In 1950, 50% of deaths were followed by autopsy; in 1995, that rate has dropped as low as 7% in some North American hospitals. Once the cornerstone of medical-school training because it taught the fundamentals of anatomy and the ravages of disease to future doctors, autopsies are now done so infrequently that many of today's physicians graduate without ever having seen one performed. And, as one pathologist pointed out, why should doctors care about having an autopsy performed when they don't even understand what the procedure involves?

"As people study the things that they missed clinically at autopsy, they learn what went wrong and they have the opportunity to correct it the next time," says Dr. Rolla Hill, the retired chair of pathology at the State University of New York Health Science Centre in Syracuse. "But this becomes rare when your autopsy rate is down around 5 or 6%. Anatomy is something that really imprints itself on you when you do autopsies, yet physicians who have graduated in the past 10 years from two-thirds of our medical schools hardly know where the spleen is because they are not being exposed to autopsies."

Hill, who went to medical school in the 1950s, participated in 15 autopsies and observed another 30 while a student at the University of Rochester in Rochester, NY. This was not unusual then, he says, but times have changed: "William Osler, one of the most famous internists to live in modern times, performed about 1000 autopsies. But find me a famous internist today who has done one!"

Autopsies are in trouble for a

Fran Lowry is a freelance writer living in Toronto.

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number of reasons, pathologists in Canada and the US say. One is the pervasive feeling among clinicians that modern diagnostic technologies will reveal all they need to know about a particular disease process or illness, leaving nothing to be discovered at autopsy. This is clearly wrong, says Hill.

"There is hardly any technology that is perfect, whether it's MRI or CAT or angiography or endoscopy. In fact, there is often a discrepancy between what clinicians think they are treating and what the autopsy actually shows they have been treating, even when the most up-to-date diagnostic modalities have been used."

The increasingly litigious nature of North American society is another reason for the autopsy's unpopularity. Some physicians fear that if autopsy data reveal a different diagnosis, a lawsuit might result. "Anything that comes up at autopsy that wasn't clearly elucidated during life is food for the lawyers," admits Hill.

Although malpractice suits are currently a more serious problem in the US, Dr. Malcolm Silver, senior pathologist at the Toronto Hospital and chair of pathology at the University of Toronto, predicts the situation is going to change in Canada. He adds that doctors are not asking for as many autopsies as in the past, which is another reason for the decline.

"One of the major changes that has occurred in hospitals is that instead of being treated by one physician, the patient is looked after by a health-professional team, which includes residents, many doctors and nursing staff," says Silver. "There used to be an interaction between patient and doctor, and more particularly between the patient's relatives and the doctor, but this doesn't exist with the same intensity today so the team doesn't ask for an autopsy very often."

Here's a common scenario in today's hospitals, particularly large teaching facilities. A patient dies at 6 am. The resident, who has the task of requesting an autopsy, arrives at 8 am but has never seen the patient or the family before. In such circumstances, where there is such a break in the continuity of care, it is difficult to ask for, let alone obtain, permission for an autopsy.

As well, certain religions prohibit autopsies. Orthodox Jews and Muslims, as well as Hindus, bury their dead within 24 hours of death. Since an autopsy would by necessity delay the burial, members of these faiths are reluctant to permit the procedure. Family attitudes also play a part. Some families may feel that their loved ones have been through so much pain in life that it would only add insult to subject them to yet another test after death.

Overcoming family reluctance takes time and dedication, but hospitals can put a system in place to address the issue. The Toronto Hospital had a young trainee priest in its cardiovascular surgical unit who would speak to relatives after a patient died. The priest developed a very good rapport with patients and families and, as a result, the unit had an autopsy rate of roughly 95%, Silver says.

Dr. Malcolm Silver: doctors are not asking for as many autopsies as in the past

Another problem is that no one wants to pay for autopsies. In Canada, where the cost is covered by hospitals' global budgets, the outlay of money is sometimes resented. The US faces a similar dilemma, says Dr. Stephen Geller, chair of the Department of Pathology and Laboratory Medicine at Cedars Sinai Hospital in Los Angeles.

"The costs are borne by the hospital and some of the money is accounted for by Medicare payments, although the exact amount is not spelled out," he says. "In recent years, since the total has been shrinking, it's not much. Still, our hospital, which is a teaching hospital affiliated with University of California at Los Angeles, continues to support autopsies."

Third-party insurers, an important component of American health care, will not pay for anything done after death, including autopsies. Such exclusion seems shortsighted, says Geller. "If I were paying millions of dollars for fancy technology, x-rays, MRIs and expensive drugs, I'd want to have some way of knowing that they were appropriate," he says. "I would actually reward hospitals that had high autopsy rates by paying them more."

However, that is usually not the case. "So many medical students leave school without having ever seen an autopsy, they can't appreciate its benefits," says Geller. "Because autopsies are not scheduled weeks or months in advance, their haphazard nature precludes their being built into any med-school curriculum, and since they are so uncommon today there is just no exposure.

"It used to be that medical students were expected to go and see one or more autopsies and virtually any day of the week in any good-sized hospital there would be an autopsy. Today in our hospital, which has 700 beds, there can be a whole week without an autopsy, so the likelihood of our getting students in to see one [is slim]. You need a com-

puter to assist you in the scheduling."

Funeral directors also discourage autopsies because the procedure makes embalming more difficult, says Geller. "They speak directly to patients' families. If an autopsy is performed well, the pathologist will mark out the blood vessels for the funeral director, but many pathologists don't do that and the funeral directors don't want to wait the extra 2 or 3 hours."

In many ways, says Hill, pathologists are to blame for the procedure's unpopularity. It takes as long as 3 months for an autopsy report to be written and then sent to the physician and, if requested, the family. And when it gets there, the report may be so large and cumbersome that it takes a chunk out of a clinician's increasingly scant discretionary time.

"What we pathologists were taught by the 19th-century gods of pathology who really discovered and created the autopsy was that you start here and about 4 hours later you've gotten to there, and every little thing along the way gets equal attention. And you write it all down in a voluminous report that is intelligible to very few people other than yourself and you send off 16 or 18 pages of organ sizes, organ colours and descriptions of lesions to the patient's doctor, who is very busy and who has no time to spend reading an 18-page report and trying to figure out the pathologist's language."

Pathologists should also push to get modern technology into the autopsy room, Hill says. Today, electronmicroscopy, viral cultures, even advanced imaging techniques, are not being used. "The autopsy is not viewed as an exciting operation because the immediacy isn't there," says Hill. "I'm not saying we would use high-tech on every organ and every case, but it's not being used at all."

But why spend money on sophisticated technology just to do an autopsy, whose cost already ranges from $500 to $3500? This raises the cost-benefit question, an important issue but one that health economists appear to be at a loss to address, says Hill. "The cheapest autopsy today costs about $500 in the US, and in high-powered institutions, with lots of students and special studies and specialties, it might go as high as $3500 on occasion. How to decide whether doing an autopsy is worth even $500 or $3500 is a question that nobody's been able to answer. We know that an appendectomy is worth whatever you want to pay for it because it saves lives. An autopsy is actually a much more complex, difficult, time-consuming procedure that involves an equally skilled physician [but] the cost benefit has not been worked out, and I don't know how to do it."

Pathologists insist that the true value of autopsies is the quality assurance and ongoing education they provide. "The real issue is not to look at the autopsy as something separate from the process of health and disease, or even life and death, but rather as the essential ingredient in finally understanding either old diseases in new [ways], or new diseases that have never been seen before, or in understanding the effects of certain systemic or local treatments that are constantly evolving, or in underlining the relationship to particular imaging strategies," says Dr. Bruce McManus, professor and head of the Department of Pathology and Laboratory Medicine at the University of British Columbia. "There is a whole myriad of reasons why people need to have an appropriate, high-quality, modern autopsy."

Pathologists have done a poor job selling the autopsy's value to fellow clinicians, says McManus; if they did a better job the value would become apparent to clinicians and demand would grow.

"If physicians don't have the crucial information that the autopsy provides, they are stumbling around in the dark."

— Pathologist Jim Gough

Studies that use animal models of disease to evaluate a new drug or investigate an infectious-disease process, tumour development or other illness all use the autopsy as one of their fundamental endpoints. If study animals were not used and autopsied, scientists would be unable to study and understand the biology, morphology and molecular genetics of disease.

"The Medical Research Council of Canada and any other self-respecting agency [that provides] peer-reviewed grants would laugh at you if you had proposed an experiment where you weren't doing some kind of autopsy on your animal model," says McManus. "But if you die, and the coroner deems that you do not merit an autopsy, you won't get one. So we autopsy any rat who goes through an experimental protocol, but we only autopsy a fraction of human beings."

As many as 25% of autopsies show a discrepancy between the diagnosis made by clinicians and the autopsy findings. Although critics often use this rate to accuse clinicians of misdiagnosis, it is not a matter of negligence, says Dr. Jim Gough, a pathologist at the University of Manitoba Health Sciences Centre in Winnipeg. "The discordance could be due to a lot of things. Autopsies will be done [following] difficult clinical problems, after all."

Gough insists that misdiagnoses are not the same as mistakes in diag-

nosis; rather, they are failures to diagnose. "A patient might have been appropriately treated and yet not have had the right diagnosis, or the diagnosis may have been incomplete," he explains. "Some conditions resist diagnosis, some are very hard to diagnose, and the fact that one cannot diagnose correctly or may have missed a large proportion is almost inevitable."

Gough recalled a woman with miliary tuberculosis who presented atypically with intermittent seizures as her only symptom. She appeared to have no problems between seizures, and was diagnosed as having malignant lymphoma. The diagnostic error followed a failure by Gough himself to interpret the patient's lymph node biopsy correctly. "The lymph node hadn't shown lymphoma, but it had shown very odd changes. I had shown it to various people and none of them was sure what it was. However, at about this same time this condition was being described in association with lymphoma. It turned out to be miliary tuberculosis. It's not all that rare now, because TB is making a big comeback, but at the time it was."

Another case of misdiagnosis involved a patient with dementia who was thought to have Alzheimer's disease; in fact, the patient had a subdural hematoma. In another case, an elderly woman with a liver tumour also had a perforated ulcer. The ulcer was missed because she did not have classic symptoms, a not-uncommon situation; the ulcer, not the tumour, caused her death.

Gough maintains that autopsies are fascinating and can teach a great deal. "Physicians want to know exactly what was going on in their patients. They may know the cause of death, they may know the diagnosis, they may know that death is inevitable, but still there is a great deal to be learned from an autopsy.

"If you're not doing autopsies, you're walking around in a fog of misplaced optimism. The physician will never be sure what was really going on. And if physicians don't have the crucial information that the autopsy provides, they are stumbling around in the dark." ■

Conferences continued from page 808

Oct. 29–Nov. 3, 1995: International Psychogeriatric Association 7th International Congress (cosponsored by the World Health Organization)
Sydney, Australia
International Psychogeriatric Association, 3127 Greenleaf Ave., Wilmette IL 60091; tel 708 966-0063, fax 708 966-9418

Oct. 30–31, 1995: 3rd Annual Blood Substitutes and Related Products
Bethesda, Md.
International Business Communications USA Conferences Inc., 225 Turnpike Rd., Southborough, MA 01772-1749; tel 508 481-6400, fax 508 481-7911

Les 2 et 3 nov. 1995 : 7e colloque sur la santé des voyageurs internationaux
Montréal
Mme Guylaine Brunet, Clinique Santé-voyage, Direction de la Santé publique de Montréal-Centre, 3700, rue Berri, Montréal QC H2L 4G9; tél 514 845-3187, fax 514 845-6757

Nov. 2–3, 1995: 7th Conference on the Health of International Travellers
Montreal
Guylaine Brunet, Clinique Santé-voyage, Direction de la Santé publique de Montréal-Centre, 3700 Berri St., Montreal QC H2L 4G9; tel 514 845-3187, fax 514 845-6757

Nov. 2–4, 1995: National Conference on Regionalization of Perinatal Care
London, Ont.
Study credits available.
Continuing Education, Faculty of Medicine, University of Western Ontario, Health Sciences Centre, London ON N6A 5C1; tel 519 661-2074, fax 519 661-3797

Nov. 8–10, 1995: Pan-European Consensus Meeting on Stroke Management (arranged by the World Health Organization, Regional Office for Europe and the European Stroke Council)
Helsingborg, Sweden
Pan-European Consensus Meeting on Stroke Management, c/o Umeå Turist & Kongress, Renmarkstorget 15, S-903 26 Umeå, Sweden; tel 011 46 90 16-3450, fax 011 46 90 16-3423

Les 9 et 10 nov. 1995 : 8e Congrès annuel de l'Association des médecins spécialistes en santé communautaire du Québec: La santé publique et la promotion des mesures efficaces
Québec
Association des médecins spécialistes en santé communautaire du Québec, 2, complexe Desjardins, porte 3000, CP 216, succ. Desjardins, Montréal QC H5B 1G8; tél 514 350-5138 ou 418 658-6755, fax 514 350-5151 ou 418 658-8850

Nov. 10–12, 1995: Emergency Cardiac Care Educational Symposium — Communities: the Ultimate Coronary Units
Toronto
Zabelle Barbarian, conference secretary, Health Promotion Dept., Heart and Stroke Foundation of Ontario, 4th floor, 477 Mount Pleasant Rd., Toronto ON M4S 2L9; tel 416 489-7111, ext 431; fax 416 481-3439

Mar. 9–10, 1996: International Psychogeriatric Association India Regional Workshop
New Delhi, India
Abstract deadline: Dec. 1, 1995
International Psychogeriatric Association, 3127 Greenleaf Ave., Wilmette IL 60091; tel 708 966-0063, fax 708 966-9418

Apr. 19–21, 1996: 4th International Conference on Geriatric Nephrology and Urology
Toronto
Dr. D.G. Oreopoulos, Toronto Hospital — Western Division, 399 Bathurst St., Toronto ON M5T 2S8; tel 416 603-7974, fax 416 603-8127

June 6–9, 1996: General Practice Psychotherapy Association 9th Annual Educational Conference : Developing Psychotherapy Skills for Use in General Practice
Mississauga, Ont.
Dr. Greg Dubord, chairman, 1996 General Practice Psychotherapy Association Educational Conference, PO Box 225, First Canadian Place, Toronto ON M5X 1B5; tel 416 391-4040, fax 416 203-6585