REVIEW

The Appropriate Use of Diagnostic Services : (xi) The Autopsy : A Personal View

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INTRODUCTION

The attitude to autopsies of many pathologists, clinicians, and members of the general public has changed significantly over the last few decades. The great increase in diagnostic ante-mortem histopathology, has taken up more and more of histopathologists' time and interest. Clinicians now seem to ask for fewer autopsies and relatives are more likely to refuse permission. The autopsy rate at most hospitals has plummetted and there has been much argument about which factor has played the largest part. Our own experience in Plymouth is that the autopsy rate can be rapidly increased if the medical-clinical staff are prepared to spend time explaining to relatives that an autopsy might give them knowledge which would be of value in the treatment of future patients; and the body would not be mutilated; and the funeral not delayed.

In a series on the appropriate use of diagnostic services, the autopsy must be the odd man out. It is only diagnostic in a retrospective or educational way. If hospital autopsies ceased tomorrow a long time would pass before it could be proved that the standard of medicine had fallen or an individual patient had suffered. With the advent of clinical budgeting the post-mortem service could be under great threat and those of us who know the importance of the autopsy to medicine may have to convince our clinical colleagues of its value.

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REASONS FOR AUTOPSY

Autopsies are performed for a number of reasons :

1. To teach and educate undergraduates and trainees so that when they see, for example, an X-ray of a chest with pulmonary metastases they know what those black and white shadows really represent. The old adage about pathology being the basis of medicine is still true and I am thankful that, at least in British medical schools, the real thing is still more important than reading books or listening to lectures.

2. To ensure that the clinician can compare the autopsy findings with his observations, opinions and investigations during the patient's lifetime.

   There seems to be one school of clinical thought which believes that if all available methods of diagnosis have been employed, the diagnosis made is the best available and of course the treatment then given is equally the best. The fact that either may be wrong has been unavoidable and the same conclusions and the same treatment would be inevitable even if the circumstances occurred all over again.

   Those who perform autopsies for a number of different clinicians know very well that in fact there is no uniform pattern of investigation, diagnosis and treatment. Autopsy is an essential part of the continuing self-education and self-evaluation to which every good clinician subjects himself.

Pressure for more formalised "quality assurance" in clinical practice is increasing. Medical audit with study of parameters such as bed occupancy, investigation patterns, laboratory usage and so on, must include a comparison of ante-mortem and post-mortem diagnoses. A wise hospital clinician will keep his autopsy rate as high as possible not least because it shows that he is self-critical.

"Quality assurance" is just as essential in general practice as in hospital practice. General practitioners might be encouraged to request more post-mortem examinations if they did not have to pay for transport of the body to the hospital. Health authorities are not normally required to pay these costs. However most hospitals have a funeral director under contract and arrangements have been agreed in some areas for the deceased to be transported from home to hospital at the gp's request.

Most autopsies performed on patients who die at home are those reported to HM coroners and there is little published detailed study comparing autopsy results with ante-mortem diagnosis and treatment at primary care level. Pathologists who perform coroners' autopsies tell anecdotal tales of unrecognised cardiac infarction, untreated chest infections and possible shortcomings of primary health care. But these instances are rarely investigated to find where — if at all — faults lie. In Plymouth for many years we have sent a copy of the report on every coroner's autopsy to the deceased's general practitioner. Unfortunately, very little feedback has been received.

3. To improve the national statistics of mortality and disease.

   This is a valid and irrefutable value of autopsies and in fact was said by the Broderick Committee on death certificaion in 1974 to be one of the main justifications for the coroner's autopsy. It applies just as much to hospital autopsies.

4. To exclude unnatural death — not only from murder, manslaughter, infanticide etc. but also from medical and other negligence.

   A few coroners see this as the only function of a coroner's autopsy — a most regrettable attitude. The practice of removing bodies of patients who have died in hospital to a public mortuary is particularly to be deprecated.

5. The pure forensic autopsy is a group on its own. Who killed who, with what, when and why invariably demands autopsy. A really difficult case can claim days of pathologists' time. Who pays for this resource is an interesting matter but another story.

ECONOMICAL USE OF RESOURCES

No matter how one looks at it, we should try to increase the number of autopsies. This was one of the conclusions of a Joint Report of the Royal College of Physicians and the Royal College of Pathologists[1].

Clinical budgeting must not interfere with this aim. If budgeting does come, autopsies must not be included in individual budgets. If there were to be competition between the autopsy allocation and allocation for more immediate and practical uses the temptation to forego the longer term, but very real advantage, of autopsy would be great.

The cost of an autopsy is difficult to calculate with any accuracy. It varies from district to district. As a minimum it needs to take account of technicians' salaries, histology, medical laboratory scientific officers' time, receptional and laundry services, the rental and general running costs of premises and, finally — pathologists' remuneration. A busy pathology department with three or four consultants is likely to perform approximately 1,000 autopsies a year.

When the number of autopsies increases, as I am sure it must, either more staff and expense will be involved or ways found to cut the costs. Prosectors — technicians who remove and perhaps dissect organs — may increasingly have to be used. An American Association of Pathology Assistants operates in the USA. Two colleges confer a Master's degree after a two year course and one, a Bachelorship after 12 months. These graduates assist at autopsies and help examine surgical specimens.

Other time-saving methods must be found. In many district hospitals, for example, life is already usually too unpredictable and the pathology staff too few for there to be the traditional fixed time autopsy demonstration. Many of us can provide little more than a telephone call to the junior doctors, to say that we are just going to, are doing, or have done the autopsy. They are often too busy to come and we later report our findings by telephone. We have had considerable success with firms who hold a monthly autopsy review meeting. Economical of everyone's time they are well attended.

The preparation of reports takes up too much time. The portable dictating machine does little to free secretarial staff, but word processing equipment has been introduced in several centres so that pathologists can compose their own reports. Post-mortem histology reporting is very time consuming and pathologists frequently store autopsy material in formalin or paraffin block form without making slides for every case.

CONCLUSION

An autopsy is seldom performed in hospital without finding some minor, perhaps major, surprise for the clinicians and, for that matter, for the pathologist. A number of series have been published pointing to the substantial disparity between autopsy diagnosis and ante-mortem diagnosis[2, 3, 4, 5, 6, 7].

Other more subtle comparisons of ante-mortem and post-mortem findings than purely diagnostic comparisons are probably important. Their long-term value in maintaining the standards of medical practice cannot be underestimated. Every histopathologist has to perform an autopsy in the Final Examination for the Membership of the Royal College of Pathologists and none that I know has ever doubted the importance of the autopsy in their work.

REFERENCES

1. Home Office, Report of the Committee on Death Certification and Coroners. London : HMSO, 1971. (Cmnd 4810). Chairman : N Broderick.

2. Cameron HM, McGoogan E. A prospective study of 1152 hospital autopsies : 1. Inaccuracies in death certification. J Pathol 1981;133:273.

3. Cameron HM, McGoogan E. A prospective study of 1152 hospital autopsies : 2. Analysis of inaccuracies in clinical diagnoses and their significance. J Pathol 1981;133:285.

4. Heasman MA, Lipworth L. Accuracy of certification of cause of death : a report on a survey conducted in 1959 in 75 hospitals of the National Health Service to obtain information on the extent of agreement between clinical and post-mortem diagnoses. London : HMSO, 1966. (General Register Office, Studies on medical and population subjects; No. 20).

5. Waldron HA, Vickerstaff L. Intimations of quality : ante-mortem and post-mortem diagnoses. London : Nuffield Provincial Hospitals Trust, 1977.

6. Briton M. Diagnostic errors discovered at autopsy. Acta Med Scand 1974;196:203–210.

7. Cameron HM, McGoogan E, Watson H. Necropsy : a yard-stick for clinical diagnoses. Br Med J 1980;281:985–988.