AUDIT

Referral for autopsies: analysis of 651 consecutive deaths in one general practice

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Abstract

Autopsies represent a key instrument in educating doctors and may aid quality assurance for primary and secondary care. This study shows that only a few patients have an autopsy, of which the majority are carried out at the request of the coroner for medicolegal reasons. Better education and communication between general practitioners, hospital clinicians, pathologists, and coroners may increase the rate of autopsies.

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Autopsy represents a key instrument in educating doctors, reassuring the relatives of the deceased, and may provide some indication of the quality of a patient's care.^{1,2} A major outcome of autopsies is to send information back to individual practitioners for the primary purpose of correcting their behaviour and making them better practitioners.³ There is an overwhelming demand among general practitioners (GPs) for autopsy reports; however, GPs rarely request an autopsy other than for medicolegal reasons.² Furthermore, the cause of death of patients is not always available and the coroner does not routinely provide reports to GPs unless they are requested.^{2,4} The aim of this study was to evaluate the reasons for and characteristics of patients who have had an autopsy.

Methods and results

We are a six doctor inner city training practice in Leicester. We have previously described a method for maintaining an accurate death register in our practice.⁴ In summary, the cause of death of all patients is recorded on the practice computer. The practice audit clerk requests information for patients who have died in hos-

pital if the practice is not informed of the cause of death. A report is also requested for all patients referred to the coroner. We report on 651 consecutive deaths that occurred in the practice over a four year period from 1 April 1993 to 31 March 1997. The average list size over the four years was stable at around 9700 patients with 14.8% patients being over the age of 65 years. The cause of death was recorded for 649 (99.7%) patients. Seventy six (11.7%) patients had an autopsy: 75 autopsies were carried out at the request of the coroner for medicolegal reasons and only one non-coroner (clinical) autopsy was requested by the hospital. Table 1 shows the characteristics of patients who had a medicolegal autopsy. There was no difference in the age of patients who were referred to the coroner from the hospital or from general practice (median age 72.5 v 75.1; Mann-Whitney U 423, $p = 0.38$). The Bonferroni correction⁵ for the cause of death showed that cardiac causes were significantly greater than other causes of death ($p < 0.003$).

Discussion

To my knowledge, this is the first primary care study to report on the characteristics of patients who have had an autopsy. As expected patients who had a sudden unexpected death were younger and the majority of these deaths were due to cardiac causes—these are often unpredicted and lead to coroner involvement. This study was based in a single practice and the results may therefore not be generalisable. One reason for the low non-coroner hospital autopsies may be due to the autopsy report not being sent to the general practitioner with the notification of the cause of death. However, the report *The Autopsy and Audit* recommends that whenever an autopsy is performed the relevant clinicians should receive a summary of significant findings.⁶

This study shows that GPs from this practice requested an autopsy only in cases of sudden unexpected death with no requests for a non-coroner (clinical) autopsies. This finding is similar to a previous study which showed that very few GPs either knew or had requested a non-coronial postmortem examination.² Another factor for not requesting a non-coroner (clinical) autopsy is that a high number of relatives are distressed by requests for an autopsy,¹ a view that is shared by GPs.

A major need for autopsies is to feed back information to the individual practitioners for the primary purpose of correcting their

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Table 1 Characteristics of patients who had a coroner autopsy and those patients who did not have an autopsy*; values are number (%) unless specified otherwise

	Coroner (n=75)	No autopsy (n=573)	Total (n=648)	
Pronounced deceased in hospital†	17 (6.9)	230 (93.1)	247	χ^2 8.52 $p=0.0035$
Died elsewhere	58 (14.4)	344 (85.6)	402	
Causes of deaths				
Cardiac diseases	54 (32.3)	113 (67.7)	167	
Respiratory diseases	10 (5.5)	173 (94.5)	183	
Other causes	11 (3.7)	287 (96.3)	298	

*Excludes one patient who had a non-coroner (clinical) autopsy and two patients whose causes of deaths were not known.

†Includes patients who were dead on arrival.

behaviour. Information regarding sudden unexpected deaths are often difficult to obtain, but may be of great value to clinicians and for the bereaved relatives. In one large questionnaire study, 90% of GPs found an attached autopsy report useful and agreed that autopsies revealed lesions not detected in life.⁷ A considerable proportion also found the cause of death surprising and a significant number felt the report would modify their future clinical management. GPs also use the critical incident technique to audit deaths in practice by searching for avoidable factors that may have prevented deaths and to discuss areas where care of patients can be improved in both primary and secondary care.⁸⁻¹⁰ As a result changes have been implemented, which include handling of hospital letters, investigations, prescriptions, and follow up of patients referred urgently.⁸⁻⁹ Because of the high level of discordance between clinical and autopsy diagnosis, autopsy results would provide a greater benefit for such critical incident audits.

Autopsies may aid quality assurance for primary and secondary care, therefore the minimum necropsy rate of 35% has been recommended for clinical audit.⁶ However, an increase in rate is unlikely unless the public and primary and secondary care clinicians are made aware of the value of autopsies. Some

have suggested that training should be provided for all grades of doctors in communication skills for dealing with death and dying.¹ Better communication between GPs, hospital clinicians, pathologists, and coroners may also increase the rate of autopsies.

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- 1 Start RD, Sherwood SJ, Kent G, *et al*. Audit study of next of kin's satisfaction with clinical necropsy service. *BMJ* 1996;**312**:1516.
- 2 Berlin A, Wagstaff R, Bhopal R, *et al*. Postmortem examinations: general practitioners knowledge, behaviour, and attitudes. *BMJ* 1994;**308**:1080-1.
- 3 McPhee SJ, Bottles K, Lo B, *et al*. To redeem them from death. Reactions of family members to autopsy. *Am J Med* 1986;**80**:665-71.
- 4 Khunti K. A method of creating a death register for general practice. *BMJ* 1996;**312**:952.
- 5 Altman DG. *Practical statistics for medical research*. London: Chapman and Hall, 1991.
- 6 Joint Working Party of the Royal College of Pathologists, the Royal College of Physicians of London, and the Royal College of Surgeons of England. *The autopsy and audit*. London: Royal College of Pathologists, 1991.
- 7 Karunaratne S, Benbow EW. A survey of general practitioners' views on autopsies. *J Clin Pathol* 1997;**50**:548-52.
- 8 Berlin A, Spencer JA, Bhopal RS, *et al*. Audit of deaths in general practice: pilot study of the critical incident technique. *Quality in Health Care* 1992;**1**:231-5.
- 9 Holden J, O'Donnell S, Brindley J, *et al*. Analysis of 1263 deaths in four general practices. *Br J Gen Pract* 1998;**48**:1409-12.
- 10 Hart JT, Humphreys C. Be your own coroner: an audit of 500 consecutive deaths in a general practice. *BMJ* 1987;**294**:871-4.