MEDICAL PRACTICE

*Contemporary Themes***Confirmation of death**

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Summary and conclusions

A working party set up to study the problems surrounding the confirmation of death investigated current practice by means of a questionnaire sent to a random sample of accident and emergency departments in district general hospitals. Of the 38 replying, 24 said that bodies were examined in the ambulance, four in the accident and emergency department, and 10 in both. Answers to the other questions also suggest that the present procedures are in general unsatisfactory, and some dissatisfaction was expressed by departments. The individuals and organisations consulted were unanimous that confirmation of death should not be carried out in the ambulance. A change of practice would, however, create practical problems.

The working party recommends therefore that the standard practice should be for all bodies to be properly examined by a doctor in the accident and emergency department, and that funds should be made available for any building alterations and increase in staff made necessary by such changes.

Introduction

Hans Christian Andersen is said to have left a note by his bedside each night that read "I only seem to be dead." There are few occasions more embarrassing to the doctor or more welcome to news reporters than when a body "comes alive" after being pronounced dead.¹ Such stories lead to considerable uncertainty in both ambulance and accident and emergency staff.² Many doubts have been expressed about the reliability of current practice, which in most hospitals means the examination of a patient in the ambulance to confirm the fact of death and the subsequent transfer of the body by ambulance to the hospital or mortuary.

At the annual general meeting of the Casualty Surgeons Association in 1978 a working party was therefore set up to investigate the problems surrounding the pronouncement of death. Its report has recommended certain procedures that might form the basis of a uniform code of practice throughout the United Kingdom. We report here the results of the survey carried out by this working party and discuss the recommendations.

Method

We sent a questionnaire about the procedures used for patients believed to be dead on arrival to 40 accident and emergency departments, a random sample of the major departments in district general hospitals. In addition we sought the views of authoritative individuals and organisations having no direct clinical connection with accident and emergency departments.

The questionnaire contained the following questions: (1) Are the "bodies" arriving in your department examined in the ambulance or in the department for confirmation of death? (2) What clinical tests and criteria are used in confirming death in your department? (3) Is the examination of the body total and external? (This was held to imply examination after removal of clothing, though the extent of the examination was seldom clearly defined.) (4) Do you consider that your present procedure is satisfactory or would you prefer another?

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(5) What is your liaison with the ambulance service like? (6) Who is responsible in your hospital for notifying death to the coroner's officer?

Results

REPLIES TO QUESTIONNAIRE

We received replies from 38 of the 40 departments sent questionnaires.

Question 1—Twenty-four departments replied that bodies were examined and death confirmed in the ambulance and only four in the accident and emergency department. Ten, however, replied "Both"; in these departments presumably doubt often exists and bodies are taken into the department after cursory examination in the ambulance.

Question 2—The main criteria on which respondents relied to confirm death were absent pulse (38), absent heart sounds (38), and absent respiration (30). The other methods mentioned were ophthalmoscopy (16), electrocardiography (10), the doll's eye reflex (13), and the caloric test (1).

Question 3—Seventeen departments replied "Yes" and 21 "No" to the question whether the examination of the body was "total and external."

Question 4—Twenty-eight of the 38 respondents indicated satisfaction with the present procedure. These included eight departments ascertaining death in both the ambulance and, where indicated, in the resuscitation room and 20 of those that confined examination to the ambulance. The latter, however, all qualified their answers with reasons—the most common being shortage of space in the accident and emergency department; bad design of the department so that dead bodies could not be concealed from public view; too great a work load; and the resistance of nurses to laying out bodies.

Question 5—This question produced overwhelming evidence of the good relationship that exists between the accident and emergency departments and the local ambulance services throughout the country. Only four departments considered that their relationship with the ambulance service was less than good.

Question 6—The question about the responsibility for notifying death to the coroner's officer produced the following replies: doctors (17); police (7); administrative staff (6); nursing staff (4); ambulance-men (4).

EXPERT OPINIONS

The replies from the organisations and one individual asked for an opinion were unanimous in advocating ascertainment of death in the accident and emergency department.

Professor Keith Simpson (emeritus professor of forensic pathology at Guy's Hospital) states: "I remember observing a body stripped of clothing and lying on a postmortem table swallow twice—after a 'casual' examination by a casualty officer in the back of an ambulance." He points out the difficulty in particular cases—for example, cases of barbiturate overdose, hypothermia, drowning, electrocution, cerebrovascular accident, and postictal states—in ascertaining whether in fact death has occurred. Professor Simpson also makes a plea for further efforts to identify unnatural deaths² because of their forensic implications, and emphasises the importance of a thorough examination of the body by a doctor before it is refrigerated for a night or a weekend.

The Association of Police Surgeons of Great Britain states that ambulance personnel should not be responsible for assuming death, though obviously they must use common sense and not, for example, attempt resuscitation when signs of postmortem degeneration, lividity, or rigor mortis are apparent. Since the body must be examined from top to toe, back to front, and side to side, the association points out, the brightly lit accident and emergency department is the right place for the procedure and not the back of an ambulance. It emphasises that the examination should be carried out by a doctor before the body is put in the mortuary and not by a policeman—whose responsibility is to care for the property and not to examine the body.

The British Medical Association's Forensic Medicine Subcommittee states that it is the responsibility of a doctor to confirm death, and that death should not be confirmed in an ambulance as this is not the ideal place for a thorough examination. It recommends that the minimum examination should consist of auscultation (repeated at least once), ophthalmic examination, and thorough examination of the external surface of the body.

The Joint Co-ordinating Committee of the Medical Protection Society,

the Medical Defence Union, and the Medical and Dental Defence Union of Scotland considers that the practice of examining bodies in an ambulance is entirely undesirable, and that an adequate examination cannot be carried out in such conditions. It emphasises that the procedure should cease for the sake not only of the patient but also of the junior doctor, who is at risk of litigation if he wrongly pronounces a patient to be dead in the ambulance.

The Association of Coroners states that bodies should preferably be moved from the ambulance into the accident and emergency department to be examined for confirmation of death, even though such a procedure may create difficulties for the staff in the department and may be a source of distress to patients. When patients have been wrongly pronounced dead, the association points out, the error has been made by unqualified people who have not waited for the opinion of a doctor.

The Association of Senior Ambulance Officers states that ambulance personnel are unequivocally instructed that under no circumstances must they assume a person to be dead and that when someone appears to be lifeless the opinion of a doctor must be obtained. The association points out that the ambulance service usually conveys dead bodies only when these are exposed to public view—that is, in cases of sudden death in a public place. Taking bodies to mortuaries when death has been certified, however, depends on local arrangements; generally if the public mortuary is not situated at the hospital where death is certified the ambulance service will transport the body to it.

Discussion

From the replies to the questionnaire and the expert opinions we obtained we may conclude that present procedures are in the main highly unsatisfactory. Though answers to the fourth question indicate that many do not consider the procedures satisfactory and are uneasy about having to examine a body in the ambulance, the replies to the first three questions should give rise to grave concern—only a minority of departments apparently examine bodies in the accident and emergency department and the extent of the examination in the ambulance is in most cases minimal.

In view of the recommendations of the Royal College of Physicians³ we were particularly concerned to know how far the criteria of absent respiratory effort for five minutes and absent brain-stem reflexes are used. Though 30 of the 38 replies mentioned the absence of respiration we have no evidence that observation is continued for five minutes, and only 13 departments use brain-stem reflexes. Furthermore, since disorganised cardiac activity may simulate death and yet the patient be capable of resuscitation, we are perturbed that electrical monitoring of the heart was carried out in only 10 departments in our sample.

The responses to the last question give cause for dismay. In many departments (31 of the 38) what used to be regarded as a moral if not a statutory obligation on the doctor—informing the coroner or his officer personally of the sudden death of a patient—was being neglected and the task delegated to other staff. We believe that this should be confirmed as the doctor's responsibility and the practice standardised throughout Britain.

The working party strongly recommends, in view of the dissatisfaction with present procedures expressed by staff in many accident and emergency departments and the unanimous opinions of the experts and professional organisations we consulted, that as soon as it is feasible the practice of confirming death in the ambulance should cease. The replies to the questionnaire and the initial response to the working party's report have shown, however, that any change will create hardship in many accident and emergency departments and possibly generate hostility. Many of the problems are practical, arising from shortage of space, time, and money. All members of the profession who believe that the present procedures are in the main unsafe and unethical should therefore without delay indicate strongly to the DHSS the urgent need for help with any capital expenses arising from building alterations and the revenue consequences of a change in practice.

If we could overcome the financial problems, the improved facilities and the increase in staff that would usually be necessary

would enable us to give a better service to the living⁴ as well as to those presumed dead.^{5 6} The ambulance service would also benefit since much of the ambulance time at present spent in transporting dead bodies to the public mortuary would be saved if the body were held at the district general hospital instead of being immediately transferred.

The increased demands on the hospital mortuary could be accommodated in some cases since hospitals often have more than enough space in their existing mortuaries. Many, however, would need to have an enlarged mortuary built, or to arrange for bodies to be transferred to the public mortuary, possibly by police transport.

Finally, the change in procedure would lead to an increase in cadaver kidneys suitable for transplantation.⁷ Clearly when a body arrives in the accident and emergency department resuscitation will be attempted if any doubt exists. Oxygenated perfusion of the kidney can then be maintained for long enough⁸ in appropriate cases to allow the necessary arrangements to be made for its removal.

Conclusions

The working party made the following recommendations to the Casualty Surgeons Association, with the request that they should be forwarded to the DHSS for consideration.

(1) In principle, the practice of confirming death in the ambulance should cease and bodies should be properly examined by a doctor in the accident and emergency department.

(2) To make this possible the DHSS should make the available funds necessary for the capital and recurrent costs of such a change.

(3) Mortuary facilities at many district general hospitals should be improved and enlarged where necessary.

(4) The changes in procedure should be made immediately in those districts where facilities are already adequate.

We are indebted to the staff of the accident and emergency departments for their kind co-operation in completing our questionnaire.

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Surgical Process and Outcome

Large-bowel surgery, 1979: self-assessment

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Summary and conclusions

Evidence of wide variability in the immediate results of large-bowel surgery stimulated self-assessment during 1979. The hazards of large-bowel surgery can usually be avoided by good bowel preparation, sound anastomotic technique, primary resection in large bowel emergencies, avoidance of anastomosis when hazardous, and antibiotic lavage for extant or potential peritoneal and wound contamination.

Introduction

Large-bowel surgery is hazardous even when elective. The hazard is that of sepsis, most seriously in the peritoneal cavity but also in the wound, and anastomotic integrity is primarily important in its avoidance. As a result of Fielding's work, some

of which has been reported,¹ there is now an awareness that the hazard varies from centre to centre and from surgeon to surgeon. Two recent papers on antibiotic prophylaxis illustrate this variability. Eykyn *et al*² reported 83 patients undergoing elective colonic or rectal surgery in whom leakage was clinically evident in 30% of anastomoses and was clearly important in the associated high incidence of wound sepsis (51% in control untreated patients and 14% in patients given intravenous metronidazole during and in the first 24 hours after operation). In contrast, in a rather similar study Higgins *et al*³ reported 60 colorectal operations without anastomotic dehiscence when the anastomosis was made within the abdomen (although seven of nine anastomoses made through the anus leaked) and with a wound sepsis rate of 7% in patients given single perioperative intravenous doses of metronidazole and co-trimoxazole. The morbidity and mortality of emergency colorectal surgery is probably even more variable.

In the United States the public has seized on striking differences in surgical standards,⁴ and public opinion is currently a factor in the awakening awareness of a professional responsibility towards audit and self-assessment.

We have assessed our performance in terms of the immediate results of large-bowel surgery during 1979 and in reporting this self-assessment propose a creed of management that appears to satisfy requirements for safety and economy in colorectal surgery.

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