The Autopsy — A Review of its Importance in Medical Practice

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In Bahrain, autopsies are rarely performed on patients dying in hospital as a result of their disease. Those that are performed are usually on stillbirths where the amount of helpful information obtained is almost nil. This review surveys the published information attesting the importance of the autopsy in medical practice, and is intended to alert physicians in this country to the need to seek permission for autopsy in order to maintain the highest possible standards of health care. The review emphasises and enlarges on the comments in the paper by Dr. A.C. Hunt in this issue of the Bulletin.

The benefits to be obtained from examination of the body after death have been pointed out by many authors in recent years :

1. Quality Assurance In Patient Care. Prospective and retrospective studies demonstrate significant discrepancies between major clinical diagnoses and subsequent autopsy findings. In one recent study from Columbia University[1], 428 autopsy cases over a four year period were reviewed, and in 48% the autopsy provided information which would have contributed significantly to improved patient care. In another study from Sweden, a country where the autopsy rate approaches 96%, 100 sudden unexpected deaths in adults were reviewed[2]. If the diagnosis had been assigned as some form of coronary insufficiency without autopsy confirmation, it would have been correct in only 49% of cases, which is a degree of accuracy slightly less than by random chance.

2. Medical Education and Research. Detailed knowledge about many diseases in the past has only become available because of the autopsy. Much understanding about such recently described conditions as Legionnaires' disease, Toxic Shock syndrome, and the Acquired Immune Deficiency syndrome has been gained similarly[3]. The continued need for autopsies in the training of medical students, residents, postgraduate trainees in surgery and pathology, and nursing staff has been clearly demonstrated. Autopsies also aid medical research, particularly in such areas as basic cellular pathology, carcinogenesis, cancer therapy, and atherogenesis.

3. Medical Statistics and Epidemiology. The collection and analysis of death certificates provides information on incidence, trends, geographic distribution, population severity of disease, occupational hazards and environmental pathology. However, it has long been recognised that death certificates are an inaccurate record of the cause of death, and that information obtained from them is unreliable[4]. The performance of autopsies in cases of death occuring in hospital clearly improves the accuracy of death certification.

4. Benefits to the Family. Especially in the death of children, the findings at autopsy may help to alleviate guilt feelings of family members by providing a more precise cause of death[5]. Contagious diseases such as tuberculosis may be discovered, allowing screening and early treatment of affected family members. Identification of hereditary disorders may allow genetic counselling and prophylactic treatment.

5. Medicolegal. Autopsies performed for forensic purposes attempt to establish the cause, time and manner of death, and the circumstances preceding and surrounding death. Forensic autopsies are also used for insurance claims, for documentation of industrial accidents, and for identification of bodies.

6. Other Purposes. In certain circumstances, autopsies may be used as a source of organs and tissues for transplantation, for recovery of prosthetic devices, and for the extraction of materials for pharmacological use.

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AUTOPSY RATES IN THE WEST

Despite these benefits, autopsy rates in many hospitals in Western countries have fallen from 50% to 15% in the last 30–40 years[6]. The reasons for this include :

1. Attitudes of clinicians. Some physicians and surgeons believe that the autopsy is no longer able to provide information that is not already available during life from various clinical tests or modern diagnostic procedures. Many investigators have reviewed the value of the postmortem examination and compared it to the improved diagnostic accuracy that has resulted from advanced technology[7, 8]. In 1984, Goldman[9] at Harvard Medical School compared several of these studies between 1912 and 1980, and showed that the percentage yield of the autopsy for clinically important missed diagnoses had changed very little during that time. The decline in infant mortality and increase in life expectancy during the same period of time prove that important medical progress has nevertheless occured. It is also suggested that some physicians may be afraid of peer criticism, or may have the attitude that death represents a failure in their medical management.

2. Attitudes of pathologists. In many departments of pathology senior staff are more interested in prestigious activities such as clinical pathology, surgical pathology, and research, and assign the performance of the autopsy to junior or trainee pathologists. The autopsy reports are typed last by the secretaries, the paraffin blocks are cut last by the technicians, and the reports are signed out last because of other more important duties[5].

3. Attitudes of the public. Lack of interest in autopsies by family members of the deceased is partly explainable in the beliefs of the public that present diagnostic procedures are almost infallible, the patient has suffered enough, body mutilation occurs, the body may be left incomplete, thereby denying life in the hereafter, the autopsy may delay burial arrangements, the results are not well communicated, or that there is little else to be gained[10]. In an Islamic country, the part played by religious belief and local custom is highly relevant[11]. There is nothing in the Quran that specifically prohibits autopsy, but it does speak against mutilation of the body after death. In such circumstances, it is of extreme importance to assure the relatives that the autopsy is not a mutilation, but should be regarded as an extension of the investigations, particularly surgical, that may have taken place before death.

OBJECTIVES

If the autopsy is to continue to hold its rightful place in modern medical practice, several improvements must be made.

1. Information from autopsies. To provide more relevant information, the autopsy should be performed by senior experienced pathologists, rather than by inexperienced residents or trainees. The clinician should discuss with the pathologist the important clinical problems and questions to be answered, and should attend the autopsy at an appropriate stage so that the relevant findings can be demonstrated. The pathologist in turn should ensure prompt reporting of results by providing a provisional summary of the main findings immediately on completion of the autopsy, to be followed at a later date by a full report.

2. Autopsy procedure. It is not necessary that all autopsies should be complete in the usual sense. Several studies show that the main diagnosis can be made in the majority of cases by a limited autopsy using a problem orientated approach[12]. This concept is particularly relevant in Bahrain, where the Medical School has adopted a similar approach for the teaching of medical students. This procedure would answer important questions about the cause of death and the complications of the disease and its treatment, while still providing reliable data for mortality statistics and quality control.

3. Obtaining the consent. The request for permission to perform an autopsy is usually made at a time when the family members are under severe stress, and often by a junior resident who may have had little to do with the care and management of the patient. It may be preferable to use a member of the social work department who is trained in approaching the newly bereaved, and

better able to explain the importance of the autopsy[10].

CONCLUSION

Acceptance of the continued need for autopsies will require a change in the attitude of the medical profession, so that its members maintain a strong desire to undergo self-assessment to provide the basis for scientifically honest clinical medicine. In 1968 the eminent pathologist E.A. Gall commented :

> **"with respect to the monitoring of health care.... there is, has been, and probably never will be, no substitute for the autopsy as a powerful instrument of quality control, prevention, and protection for the health consumer"[13].**

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