# EDITORIAL

## OF DEATH AND EUTHANASIA

Since time immemorial, the cessation of spontaneous respiration and heart beat has been generally accepted as indicating that death has occurred. This criterion of death has never been questioned, and biologically it makes sense. In the absence of the circulation and oxygen supply no tissue can survive for more than a few minutes; the brain certainly cannot tolerate anoxia for more than 2 minutes. Cessation of life of the component cells and tissues of the body must necessarily mean death of the whole organism.

This relatively simple and clear-cut situation was destined to change with the advent of sophisticated and powerful medical technology. With the ability to provide artificial respiration and to maintain the heart beat with cardiac pacing, the doctor can radically influence the event of death. What naturally follows spontaneous cessation of respiration and heart beat i.e. general tissue death, can now be held in abeyance. If cardio-respiratory arrest is due to a condition affecting primarily the circulation or respiration, general tissue death can be averted, provided artificial support or replacement is adequate to sustain the patient, until such time as natural respiratory or circulatory function returns. However, if the cessation of spontaneous respiration or circulation is part and parcel of a general dying off of tissues, artificial respiratory or circulatory support is obviously futile. If, in such a case, the patient has been put on a respirator, it becomes important to know when general tissue death has actually occurred. The brain, with its central regulatory role in bodily functions appears the obvious choice for investigation of tissue death. Brain death is indicated by a flat electroencephalograph (EEG) which is a reliable electrophysiological confirmation of cessation of biological activity.

Even if the brain has been primarily diseased or damaged brain death denotes actual or imminent death of all other tissues. This is of importance in determining when the respirator should be switched off to avoid persisting in futile efforts. Obtaining organ for transplantation could be considered at this stage, provided the function of the required organ is still satisfactory. The actual retrieval of the organ of interest cannot obviously be long-delayed after brain death if function is to be preserved. In practice, a flat EEG for 2 hours is generally observed before action, care having been taken to ensure that other factors known to influence EEG e.g. hypothermia and C.N.S. depressants like barbiturates are excluded.

The case for withdrawing artificial support in a patient who shows unequivocal evidence of brain death is clearly above reproach in all respects. However the act of switching off the respirator in such circumstances can prove quite a trying experience for those whose concept of death is firmly breath-oriented. It is easy to forget that breathing is solely the work of the artificial respirator and not spontaneous in the patient. Sometimes the term euthanasia unfortunately creeps in and the thinking gets even more clouded. A medical practitioner needs only to remember that biological death has actually occurred, to dismiss any lingering false compunction about taking another's life and "playing God".

The case of Karen Ann Quinlan, which made newspaper headlines was however quite a different kind of problem. Here, brain death (by EEG) had not occurred although the patient had been reduced to "a vegetable", having obviously sustained extensive brain damage. In the absence of unequivocal tissue death, euthanasia naturally became the issue. Without entering into the fray, one could say that the issue involves two related fundamental questions: Is it right to terminate another person's life under certain conditions? If it is right to do so, under what circumstances (excluding, for this discussion, the question of capital punishment)? The second question leads inevitably to the debate on the quality of life, which is singularly difficult to define, let alone quantifying it. One sees the situation in Quinlan's case, where the brain, though not dead by the accepted criterion of a flat EEG, had been so damaged that it was incapable of normal functions. Being the seat of feeling and perceiving, thinking and willing, the brain if severely damaged may confer only a "vegetable" existence. The arguments for and against terminating such a life are the very essence of the euthanasia controversy. The attitude towards such an emotive

issue reflects social, economic, medical and moral considerations and it is little wonder that no one has so far come up with any generally acceptable guidelines on this matter. In practice, the doctor would probably fall back on the clinical dictum that every case should be considered individually, but brought up in the tradition of preserving life and steeped in the tenet of sanctity of life, doctors in general are understandably reluctant to espouse euthanasia. A possible solution as Dr. A. L. Gwee suggests in this issue of the SMJ would be for doctors to help society at large set the criteria which would enable an independent, preferably judicial, body to come to a decision the execution of which would then at least be legally correct.