Monitoring of critically ill surgical patients

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In modern surgical practice there is a definite placefor management of critically ill patients in the surgicalacute care unit (SACU) • The surgical intensive care has nowbecome an independent unit and SACU is now an indispensablepart of any modern surgical practice.For understanding the basis of patient care and masteringof invasive techniques, the surgeon must have a period of trainingat an IOU. In SACU the surgeon is the leader of the multidisciplinaryteam.The- patients are usually in their immediate post-operativeperiod after major surgical intervention or even minor surgicalprocedures in high risk patients. However, the list of criticallyill patients may extend_to include multiple trauma patients.massive bleeding (GIT or accidental) and severe acute ill-Dess e.g. acute pancreatitis. Other patients qualifY themselvesfor SACU due to massive sepsis or high output faecal fistula.Whatever the cause for admission to the SACU is, the problemwi th the patients is potential or actual failure of one of thevital functions, including cardiorespiratory failure, renalfailure, electrolyte disturbances and multiple organ failure.Monitoring is the mainstay in the prompt and effectivemanagement of these patients. Bowever, sophisticated equipmentare no substitute for clinical assessment.A basic monitoring system includes an ECG, an intra-arterialcatheter for arterial gas analysis and pressure measurement,'a C.V.P., thermistors and biochemical analyser for electrolytes,lactic acid, pH and other necessary data for renal and hepaticfunction. Calculating the indices of cardiovascular haemodynamics(cardiac index, stroke volume, stroke work and index, systemicand pulmonary vascular resistance and rate-pressure product)are the final outcome of cardiovascular monitoring. Gasanalysis and electrolytes, pH, lactic acid reflect respiratoryfunction and tissue metabolism. Calculating anion-gap and/ormuscle surface pH is indicative of tissue oxidation and oxygenutilization. Galasgow coma scale is the prototype assessment forneurological monitoring. C.T. has revolut~onized the managementof head injury and coma. Monitoring intracranial pressure and EEGtechniques reflect neurologic function.Multiple organ failure MCF is now the final common pathwayin critical surgical illness. The organs fail in se~uence. Respiratoryfailure is invariable in all MCF patients.Computers can be applied to critical care medicine in acquisitionof data, data storage and display, calculating differentvariables with accuracy and speed and presenting them in atabular form. Digital computers can use monitoring data toregulate therapy. One may safely predict that of all the monitoringequipment, most will soon become dependent on microprocessors, if they are not already.The hazards of caring for a critically ill-patient in theSAOU are sepsis, stress ulceration and psychological

impact.Intensive care medicine offers real but limited value. TheIOU exists to provide care for critically ill patients for whomthere is hope that recovery will occur. IOU is currently the mostexpensive patient care areas in the hospital • It should be deter-,mined to what extent extraordinary means will be used to supportlife when the risk of death is high. In a choice between twogoods; death with dignity versus cure of disease, an unavoidableand unresolvable conflict can arise •