Monitoring of critically ill patient

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Pathophysiology of shock as an example of critically illpatient is discussed in full details. Catecholamine, mineralocorticoids,and insulin are elevated in most forms of shock.Also, corticotropin, glucagon, A.D.H., endorphines, andIarachidonic acid metabol~es (thromboxane ~ & prostacyclin).all are released and increased in shock. CardiopUlmonaryresponse in severe forms of shock, disseminated intravascularcoagulopathy, organ responses to shock and immune defects, allare explained.Metabolic Tesponse in critically ill patient ischaracterized by negative nitrogen balance and hypermetabolismthat occurs withen days of injury. The consequent catabolismappears to be directed toward supply of energy to the injuredtissue as well as to maintain homeostasis. The wound participatesin initiation of the response.As regards fluid and electrolyte imbalance in criticallysurgical ill patients, it was found that retention of sodium andchloride, also, oliguria occur 24 to 48 hours after trauma orpostoperatively. But after 2 days and withen the first week,the fluid volume is increased and sodium and chloride areexcreted. Although potessium and adrenal steroids excretionin urine is increased in the first 4 days, yet the levels ofpotassium and urea in blood are increased (due to theirexccessive production more than excretion). The blood levelsof sodium and chloride are low, due to the dilution effect ofgreater water retention, also due to intracellular deviationof sodium and chloride following the passage of potassium,phosphate and sulphate into E.C.F. Exccess A.D.H., in responseto pain, trauma and anaesthetic and analgesic drugs, isresponsible for the inability to secrete water load.Special chapter is concerned with dissuction of majorproblems met with in critically ill patient. Acute respiratoryfailure, shock, and acute renal’failure are examples. Patho-.physiology, clinical pic ture and management of each, arefully explained.Investigations of critically ill patient are very importantas primary means for management. Hemodynamic monitoring ofC.V.S. includes standard monitor, cardiac catheterization,assessment of ventricular function, measurement of myocardialoxygen balance and laboratory investigations. For respiratorydisorders sputum examination, radiology of the chest togetherwith pulmonary function tests should be done. In case of renaldisorders, kidney function tests should be done (tests ofglomerular and tubular function) E.E.G. monitoring can beuseful in solving urgent medical problems of intensive caretherapy.Evaluation of the patient helps to establish the diagnosisand to assess the severity of the disease. It also gains someinsight into the risk of morbidity and mortality. Shoemaker1983 did a predictive index based on;cardiorespiratory monitored-144values of an earlier series of post-operative critically illpatients. He suggested that about two thirds of

postoperative.deaths may be due to physiologic problems that can be identifieddescribed. predicated and prevented. Any endocrinal or renaldisorders should be corrected an4 assessed. also any electrolyteimbalance.Intensive care unit is essential feature of modernprogressive medical care of critically ill patient. In thisstudy we must know the manner in which I.C.U. should bedesigned. equiped. staffed and planned. I.C.U. must haveavailable basic types of equipment which consists of apparatusfor suction. normal and mechanical artificial respirationtogether with humidification. surveillance. defibrillation.dialysis and roentgenography. The most important monitoringdevices are E.C.G •• pUlse, central venouspressure.pUlmpnary wedge pressure. blood pressure and temperaturemonitors •. Adequate laboratory facilities including bloodgas, electrolyte and acid/b~se balance determination. are.essential.Lastly. management of critically surgical ill patient isfUlly discussed in special chapter. which includes managementof C.Y.S., respiratory system, abdomen. spine, head pelvis,limbs. arteries and nerves, also the indications of frequentlyrequired radiographic examination in cases of multiple trauma.This chapter includes also the nutritional support, as regardsconsequences of malnutrition, estimation’ of requirements andtypes of feeding, needed for critically surgical ill patients •