management of diabetes in the surgical patient

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Diabetes mellitus is a disease that affects a largesegment of the population and thus one or the major healthproblems of our society. Most of the organs are affectedby the disease which may lead to neuropathy, nephrop&thy,retinopathy and many other complications. Hence a lot ofwork must be done to overcome and control the disease.Much has been written in the past on surgery indiabetic patients, but there are few objective reports andcomparisons of the different recommended regimens. Many ofthese are complicated. In this work some of these regimenshave been described with particular emphasis on theregimen that involves the IV administration of Lneul.Ln,glucose and potassium as a single infusion. In fact, it iseasy, simple and safe to manage. It is started from themorning of the day of the operation and continued u.ntilnormal feeding is re-instituted. The regimen is applioableto insulin independent and insulin dependent diabeticsalike ..Problems with severe hypoglycemia and hypokalaemiahave not been encountered and positive benefits withrespect to blood glucose stability and nitrogen andpotassium balance have noted.There has been an improvement in graft survival ratesassociated with the use of cyclosporine in combinationwith other immunosuperssants.-94-Transplantation of isolated human islets remain aninvestigational technique. In experimental models, bothmetabolic and morphologic abnormalities are ameliorated bylolat transplantation. Wide applioation of islet graftingin humans awaits solution of significant problemsinvolving islet isolation, preservation and prevention ofrejection.Pancreatic transplantation repre.ents a physiol’l:lqicapproach for restoration of normoqlycemia in diabeticpatients, that will prevent the occurrence or half theprogression of the secondary complications of diabetes.The nUmber of pancreatic transplantants and thesuccess rate have increased siqnificantly since the firstseqmental pancreas transplant was performed in 1966. OVerthe last 10 years, 1200 pancreatic transplants have beenperformed and just under 300 were performed in 1987. Mostpancreatic transplants have been p1’ced in diabeticrecipients of renal transplants with end-staqe renaldisease, but application to nonuremic patients. notundergoing renal transplants is increasing.A variety of techniques have been used for pancreastransplantation. Whole or seqaenta1 grafts have been used.Most -centers drain the qraft exocrine secretion into thegastrointestinal tract as a Roux-en Y pancreatico-jejunostomy or into the bladder as a pancreaticocystoetomyDrainage of the graft duct into the bladder allowa-directassessment of exocrine function and lead to earlierdiagnosis and treatment of rejection episodes.In well-stated centers, insulin can be given withmore precision and less adsorptive losses using aninfusion

pump. Frequent monitoring of blood glucose isnecessary for all regimens.The increase in insulin requirements after surgery,caused by infections and certain drugs, has beenemphasised.Diabetic foot lesions most cOllllllonrleysult from aCOmbination of neuropathy and vascular disease in thelower extremity, and may be· the presenting feature otdiabetes in the older patient the high risk pati.ntrequires education and frequent follow up to redUce therisk of lesions developing.If Ulceration develops, healingis likely to occur if the vascular supply is lidequate,infection and the blood glUcose are controlled andpressures that may have caused the ulcer are relieved.The key to a future reduction in the incidence Ofdiabetic foot Ulceration is the setting up of a foot ~areteam in which the skills of nurses, pediatrics, orthotistsphysicians and surgeons are combined. The most importantmembers of the team, however, are the patients who must beconvinced that regular foot care will reduce their chancesof developing ulceration and other catastrophicconsequences, such as amputation.Preoperatively the patient needs to be throughlyevaluated to determine the extent of damage by the diseaseand to take appropriate preventive measures, increasedmorbidity in diabetics undergoing operation is relatedmainly to cardiovascular complications, infections andreduced rates of wound healing.An increased incidence of cardiovascular diseasemakes myocardial infarction and congestive heart failureresponsible for the morbidity of. diabetic patient afteroperation than nondiabetic.Infection is another major cause of morbidity indiabeti.c than non.diabetic. Duringand ketoacidosis host defensesperiods of hyperglycemiaagainst infection areimpaired.Infections of the urinary tract, lower limbs, andlungs contributes to morbidity in diabetic patients thanin non diabetic patients.-97-Neuropathy particularly involving the autonomicnervus system may impair the vascular responses during andatter operation this is noticed more in diabetic patientthan non diabetic .patients, the surgeon should be aware Ofthe risks ot urinary retention, a cute gastric dilatationand illeus in patients with neuropathy involving theurinary bladdor and gastrointestinal tract.Impaired renaltunction as a result ot nephropathymay make management ot tluid and electrolyte balancedifficult, the most important tactor in prevention otpreoperative during and postoperative complication is goodcontrol ot the blood glucose especially prevention of ketoacidosis.