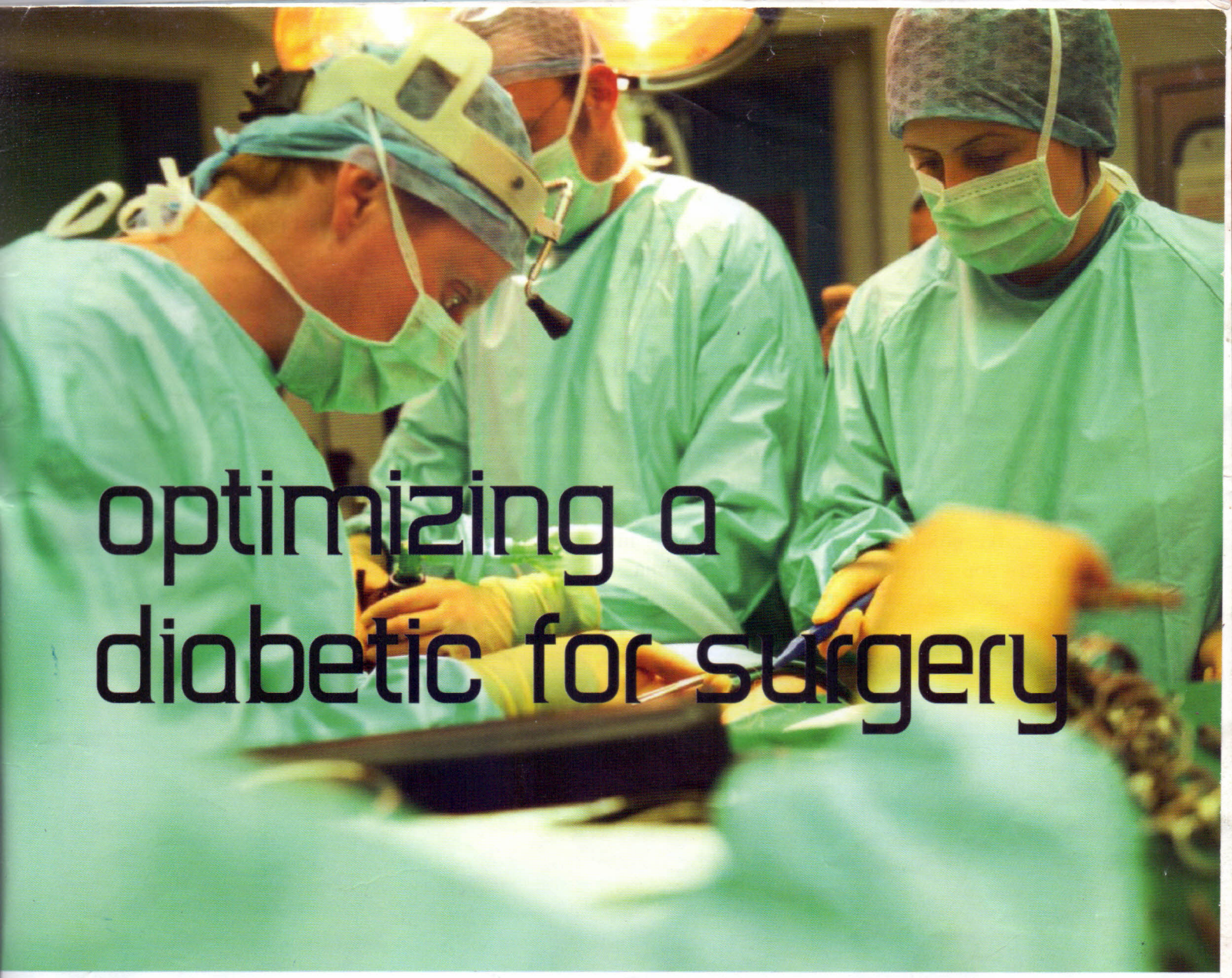

optimizing a diabetic for surgery

30-40% of diabetic patients require surgery at any point of their life.No diabetic should be denied a surgery just because he or she happened to be a diabetic . Mortality rates in diabetic patients have been estimated to be up to 5 times greater than in nondiabetic patients, often related to the end-organ damage caused by the disease.

Our aim is to make patients safe for surgery which needs the team work of Surgeon, Anaesthesiologist and Diabetologist.

Optimising a diabetic for surgery is very essential because hyperglycemia leads to impaired wound healing, deficient formation of granulation tissue, impaired chemotactic, phagocytic, hormonal host defence & complement function.

Peculiar problems in surgery are, stress of surgery, increased cortisol, elevated adrenaline increases plasma glucose. IV fluids are to be given in perioperative period with no oral intake.

Preoperative investigations in a diabetic ideally in addition to routine parameters should include HbA1c less than 7%, Fasting blood sugar < 100 mg/dl, Postprandial blood sugar < 140mg/dl,ECG,Echo to rule out Myocardial Ischemia, Infarction, Arrhythmia, conduction block. Lipid profile with LDL < 100mg/dl , TGL <150mg/dl, Target BP <130/80mmof Hg, Urea < 40mg/dl, serum creatinine < 1.4mg/dl

Medical management : Statins reduce cardiovascular risk in a diabetic. ACE inhibitors,ARBs to treat systemic hypertension, cardioselective beta blockers reduce mortality in a case of Ischemic Heart Disease. Antiplatelet drugs like Aspirin, Clopidogrel to be stopped 72 hours before surgery.

Glycemic control in Type I diabetic includes Pre operative

sc Insulin for elective non complex surgery without medical complications. IV Insulin is indicated in long complex surgeries and in emergency operations in ketoacidosis, pregnant type I diabetic.

In Type II diabetics without complications can be managed perioperatively with oral hypoglycemic agents. With medical complications can be managed with sc Insulin, Long duration complex surgeries with medical complications require IV Insulin.

Early morning Surgery is least disruptive of blood sugar . In Type II Diabetics oral hypoglycemic agents taken on the day before surgery. Supplementary short acting Insulin is sufficient for elevated blood glucose level just before operation. Poorly controlled diabetic undergoing complicated surgery may need IV Insulin.

Intra operative problems in a diabetic includes impaired vasoconstriction predisposes to hypothermia which precipitates hyperglycemic crisis & poor wound healing. Good nutritional status with Albumin > 2.5 g/dl , Blood glucose < 150 mg/dl, adequate wound perfusion, optimum surgical duration and technique , Enteral feeds as early as possible post operatively and antimicrobial prophylaxis to prevent infections hasten wound healing.

- In conclusion To make patients safe for surgery, we need an understanding team work between the surgeon, anesthetist and diabetologist.
- When the patient is under anesthesia the ideal is to have diabetic therapy supervised by a diabetic team where available.

Dr. Sivakumar. N
Surgeon