

TITLE

**Pragmatic Therapy of
Diabetes**

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The pragmatic therapy of diabetes emerges from author's laboratory research. Cell culture studies demonstrated that glucose levels above 200 mg/dL (> 11.1 mmol/L) cause damage to vascular endothelial cells (ECs). The severity increases with duration of exposure of cultured ECs to high glucose. This glucose-induced EC damage is mitigated by exposure of the ECs to insulin in the presence of high glucose. There is evidence that insulin treatment prevents diabetes-related microvascular complications. By taking insulin multiple times, glucose may reach normal level only for a short time, because endogenous insulin response is insufficient. Manipulation by oral antidiabetic agents to enhance endogenous insulin release, or increase insulin sensitivity, results in exhaustion of the beta cells, thus changing an easily controllable glycemic state to a pathological uncontrollable glycemic state over the years. More troublesome is the lack of established information about the glucose levels that are safe. Safe glucose level means a level which is least toxic to microvascular system and not likely to cause neuropathy, foot ulcer, gangrene, sexual dysfunction, and kidney failure. To achieve that glucose control is a formidable task for the patients as well as the doctors and nurses. Thus, on one hand patients must be astute in their care and doctors and nurses must be diligent in implementing and maintaining optimal glucose control in their patients. Randomized clinical trials of glycemic control, comparing one insulin against another, or insulin against oral hypoglycemic agents is not ethical. Such clinical trials will shed no light in improving diabetes care.

Biography

Dr. Mandal completed his MBBS (equivalent to MD) at the age of 24 from Calcutta University in India. He received his nephrology training at the University of Illinois, Chicago and has done extensive research on high blood sugar, diabetes, and kidney disease. He has published more than 200 papers and abstracts as well as three books. He has been a visiting professor in 24 countries and is a courtesy clinical professor at the University of Florida, Gainesville.