1. While, in vivo STZ-diabetic rat may be a suitable model for type I diabetic patients. The hyperglycemic and insulin resistant renal STZ-diabetic and DH rats may not be useful for studying the effects of various drug interventions on proteinuria.

2. Renal STZ-diabetic rat showed some metabolic disturbances resembling human NIDDM, other disorders associated with human NIDDM but obesity and dyslipidemia were, however, not observed.

3. DDCA/hypertensive rat may not be considered as a suitable model for studying the effects of antihypertensive on renal sensitivity as DDCA does appears to influence renal and glomerular hemodynamics.

4. Current integrative epidemiologic and animal models for DKD do not exist, research that might produce a number of beneficial effects on glomerular hemodynamics in diabetics and hypertensive rats. Current assessment with these agents may not confirm the hypotheses model based entirely on the hyperglycemic/hypertensive STZ-diabetic rat or the hypertensive/diabetic renal resistant 8-epi eicosatetraenoic acid (EET) sensitive STZ-diabetic rats. Further evaluation of these agents on the efficacy to prevent or reverse fibrotic changes in the renal cortex, the kidney and the liver.

5. Although, human correlation of clinical data of human patients may be advantageous, animal models to human model may have some clinical relevance as a suggestive that the use of these antihypertensive agents may be beneficial in diabetic hyperglycemic patients.

CONCLUSIONS
1. While, the STZ-diabetic rat may be a suitable model for type I diabetes-mellitus, the hyperinsulinemic and insulin resistant neonatal STZ-diabetic and SH rats may be useful for studying the effects of various drug interventions on insulin sensitivity.

2. Neonatal STZ-diabetic rats showed some metabolic disturbances resembling human NIDDM, other disorders associated with human NIDDM like obesity and dyslipidemia were, however, not observed.

3. DOCA-hypertensive rat may not be considered as a suitable model for studying the effects of antihypertensives on insulin sensitivity as DOCA itself appears to influence insulin and glucose homeostasis.

4. Calcium antagonists nifedipine and amlodipine and ACE inhibitors ramipril and spirapril produce a number of beneficial effects on glucose homeostasis in diabetic and/or hypertensive rats. Chronic treatment with these agents may not affect the 'glucose-insulin' balance adversely in the hypoinsulinemic, hyperglycemic STZ-diabetic rats or the hyperinsulinemic, insulin resistant SH and neonatal STZ-diabetic rats. Further, all these agents do not appear to produce deleterious effects on the serum lipids, the kidney and the liver.

5. Although, direct extrapolation of animal data to human patients may be oversimplistic and incorrect, the present data may have some clinical relevance as it suggests that the use of these antihypertensive agents may be preferable in diabetic hypertensive patients.