Summary
5. SUMMARY

5.1 A total of seventy hypertensive patients with 50 normal subjects were included in this study. Twenty-five female hypertensive patients were then randomly selected for antioxidant therapy for 90 days. The antioxidant status and stone risk factors were determined in blood as well as urine.

5.2 The hypertension patients showed no significant alteration in hemoglobin when compared to control subjects. However there was a significant increase in osmotic fragility of RBC in hypertensives. Vitamin E feeding restored the osmotic fragility of RBC in hypertensive patients to normal.

5.3 Blood pressure was significantly high in hypertensive patients when compared to normal subjects. Vitamin E administration decreases the blood pressure significantly.

5.4 Plasma lipid peroxidation in terms of TBARS was significantly increased in hypertensive patients when compared to that of normal subjects. Following the administration of Vitamin E for 12 weeks the lipid peroxide level was normalized.

5.5 The plasma levels of ascorbic acid & Vitamin E and Reduced glutathione in Red Blood Cells (RBC's) were significantly decreased in hypertensive patients when compared to controls. Administration of Vitamin E restored the ascorbic acid and Vitamin E after 4 weeks while reduced glutathione was brought to near normal after 12 weeks.
5.6 The antioxidant enzymes SOD and GPX activities were significantly decreased in hypertensive patients when compared to that of normal subjects. Vitamin E administration restored the GPX levels to normal after 4 weeks but SOD level after 12 weeks.

5.7 The serum level of cholesterol, triglycerides and LDL were increased and HDL level was decreased in hypertensive patients when compared to that of normal subjects. However no change was observed following Vitamin E supplementation.

5.8 The blood levels of sugar, urea nitrogen, creatinine GOT, GPT, ALP, GGT, LDH, and total bilirubin were normal in hypertensive patients. However there was a slight decrease in the total protein and albumin level in group 2 patients compared with normal subjects. No significant changes were observed after vitamin E treatment.

5.9 Serum magnesium, uric acid, calcium levels were decreased and phosphorus level was not altered in hypertensive patients when compared to that of normal subjects. Magnesium level was restored to near normal by 90 days of vitamin E treatment.

5.10 24 hours urinary calcium, oxalate and protein levels increased and magnesium, citrate and creatinine clearance were decreased in hypertensive patients when compared to that of normal subjects. All other parameters such as uric acid, phosphorus and creatinine were not affected. However urinary phosphorus and uric acid levels were significantly increased in stage IV (more severe) hypertension compared to controls. Vitamin E administration restored oxalate, magnesium, protein and creatinine clearance to near normal. However calcium
and citrate did not normalize, though there was a decreasing trend during vitamin E supplementation.

5.11 Urinary enzymes GGT, ALP, NAG aminidase and LDH were significantly increased in hypertensive patients when compared to normals. Vitamin E feeding restored LDH and NAG aminidase to near normal. However ALP and GGT did not normalize, though there was a decreasing trend during therapy.