7. VI. SUMMARY

The pharmacological studies, acute toxicity, sub acute or repeated dose 28 day oral toxicity study and sub chronic or repeated dose 90 day oral toxicity study of HF cross bred cow urine as well as routine comparative study of urine from different breeds of cows were carried out in the present investigation in wistar albino rats.

In the pharmacological studies cow urine samples from HF cross bred cows were screened for analgesic, antipyretic, anti-inflammatory, hepatoprotective, wound healing and immunomodulatory activities.

Hepatoprotective activity of crossbred milking HF cows’ urine at the dose of 0.05, 0.1, 0.2 and 0.3 ml/100 gm body weight.

The cow urine treated groups did not revealed any significant pharmacological activities in the experiments conducted for analgesic, antipyretic, anti-inflammatory and immunomodulatory activities.

In the study of hepatoprotective activity cow urine significantly reduced the levels of AST, ALT, ALP, BUN and bilirubin at all the doses tested in CCl₄ hepatotoxicity model.

In the study for assessing wound healing activity, the cow urine on external application to the wound hastened the wound healing. Further research to needed to isolate and identified the active molecule/molecules responsible for hepatoprotective and wound healing activity.

In the acute toxicity study in male and female rats there was no mortality even at the highest dose tested (5 ml/kg body weight) indicating that cow urine was practically non-toxic.
In the repeated dose 28 day sub-acute oral toxicity study the blood and serum samples were analyzed on day 0, 14 and 28 for estimating different hematological parameters (TEC, TLC, DLC, Hb, Hct, MCV, MCH and MCHC) and biochemical parameters (AST, ALT ALP, Creat, BUN and TSP). There were significant change in hematological and biochemical values but the significant values were under normal ranges.

In the repeated dose 90 day sub-chronic oral toxicity study was carried out in crossbred milking HF cow’s urine at dose of 0.05, 0.1, 0.2 and 0.3 ml per animal in wistar albino rats in both the sexes.

All the animals were observed daily during the period of study for toxicity signs. The blood and serum samples were analyzed on day 0, 30, 60 and 90 for estimating different hematological parameters (TEC, TLC, DLC, Hct, Hb, MCV, MCH and MCHC) and biochemical parameters (AST, ALT ALP, Creat, BUN and TSP concentration).

There were significant changes in the concentration of various parameters of hematological and biochemical studied. The study indicated that cow urine was safe on sub chronic 90 day oral administration. There was a significant change in hematological and biochemical values but the significant values were under normal ranges.

The routine physical, chemical and microscopic studies were carried on urine samples in different breeds viz., Amruthmahal, Jersy, Saahiwal, Hallikar, Gir, Malnad gidda, Ongole, Deoni and Kankrej breeds of cattle.

In conclusion, crossbred milking HF cows’ urine in male and female rats at the dose rate of 0.05 ml, 0.1 ml and 0.2 ml/100 gm showed hepatoprotective effect and wound healing properties. Crossbred milking HF cows’ urine was found to be
safe at the used dosage in terms of various hematological and biochemical parameters.

Further researches are needed to identify the active principle components in the urine which were responsible for hepatoprotective and wound healing properties.