CHAPTER VII.

SUMMARY AND CONCLUSION.
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1. 17 Lignocaine (Xylocaine) analogs were screened for their local anaesthetic activity, of these 6 were selected for detailed study.

2. Local anaesthetic activity was determined for surface anaesthesia and intradermal anaesthesia in guineapigs. Compound F (Piperidinyl N-2,4 dimethyl benzyl propionamide) was found to be the most potent in both the cases.

3. Acute toxicity and L.D.50 was determined in mice. Compound F was found to be the most toxic agent though less toxic than lignocaine. Chronic toxicity was determined in rats after prolonged parenteral administration (S.C.) of these drugs. The internal organs were subjected to histopathological examination. None of the compounds revealed any untoward effects.

4. On the cardio vascular system these compounds caused hypotension which was more prominent in drug induced hypertension. The possible sites of hypotensive action were investigated which were found to be peripheral vasodilatation, ganglionic blockade and myocardial depression.

5. Cardiac antiarrhythmic property of these compounds was investigated in experimental cardiac arrhythmias.
of dogs. Most of the compounds showed marked antiarrhythmic activity which was comparable to the reference drug quinidine. A few compounds also showed profound cardiac tonic properties.

6. Respiration was found to be depressed with most of the compounds probably on account of direct depressant action on the respiratory centre in the later stages.

7. There was a general inhibition of the smooth muscles such as intestine, tracheo-bronchial muscles, and carotid arterial strip. The compounds also exerted a spasmolytic action against various spasmogens. This effect was directly proportionate to the doses and also related directly to the local anaesthetic activity. The effect on isolated uterus of guineapig and rat was different from other smooth muscles. Most of the compounds showed marked stimulation of the uterine muscle.

8. The effect on different skeletal muscle preparations varied with different compounds. Some of the compounds showed stimulation followed by depression. Others showed depression throughout while some showed only stimulation. Effect varied also from preparation to preparation. No correlation could be established with the local anaesthetic activity.
9. The effect on central nervous system was investigated for anticonvulsant and analgesic activity. None of the compounds showed any marked action in this respect.

10. Observations and results have been discussed and therapeutic possibilities explored.