

SUMMARY

AND

CONCLUDING REMARKS

SUMMARY

A brief history of the existing literature on the seminal vesicles of mammals is described in the first chapter. This chapter also includes the reasons for undertaking of the present investigation. A critical analysis of the literature shows that still there are several avenues open for detail studies on gonads and accessory glands of several animals in the field of anatomy, histology, cell types, nature of mucosubstances elaborated by the seminal vesicles in closely related and distantly related species, effects of castration and hormone replacement therapy etc. With regard to aforementioned points the present investigation was undertaken.

Some of the noteworthy observations are given below :

- 1) The seminal vesicles are absent in Carnivores such as dog and cat. In other mammals belonging to carnivora nothing is known. In the present investigation seminal vesicles were found in the mongoose which is a carnivore.
- 2) The epithelial cells have been described as cuboidal, columnar, basal etc. Even the epithelium has been described pseudostratified in some of the animal. In the present study, the mucosa of the seminal vesicle was found to contain single layer of cuboidal cells in bat, rabbit, hare, squirrel and mongoose, but columnar cells in house rat and white rat. It is of interest to note that the glandular cells are of two types in the seminal vesicles of house rat.
- 3) The nature of secretion in the acinar lumina was found

amorphous. This is true for most of the other animals. There are sporadic reports on the secretion in the form of blebs and crystalloid bodies in some animals.

- 4) Glycogen, PAS-reactive but non-basophilic mucosubstances were detected in the cells of the seminal vesicles. These were considered as neutral mucosubstances. These observations and the existing data indicate that the nature of mucosubstances vary in the seminal vesicles according to species. Glycogen and sialic acid containing mucosubstances were also characterized which varied in different species.
- 5) Some variations were noted for the nature of mucosubstances in the seminal vesicles of closely related species. In the existing literature, also there are some similarities and some differences noted in the seminal vesicles of closely related species.
- 6) Some atypical mucosubstances were identified in the cells and/or secretion in the seminal vesicles of hare, rabbit and house rat. These mucosubstances are AB-unreactive but C.I. - reactive.
- 7) Castration caused atrophy of the seminal vesicles in house rat and reduction in the secretion. There are several such reports in other animals. It is of interest to note that in ram (Aitken, 1955) found no change in glycogen content of seminal vesicles of even after one year of castration.
- 8) As reported on reversal of castration induced effects in other animals, similar effects were found in house rat seminal vesicles after administration of testosterone propionate.

CONCLUDING REMARKS

Thus, the aims and objectives with which the present investigation was undertaken have successfully been fulfilled. The main aims of the present investigation were to augment the knowledge about the cell types in the seminal vesicles of some mammals to characterize histochemically the nature of mucosubstances in them, similarity or species-diversity in them in closely related species, to compare the results in the present investigation and existing literature and effects of castration and hormone replacement therapy. It is hoped that these aims have been achieved.

While concluding the present dissertation, the author would like to humbly state that the present work is not complete. The author had to depend only on histological and histochemical techniques, the animals available at present and the effects of castration and hormone replacement therapy on the seminal vesicles in house rats. This, hence, forms excellent subject matter for further studies. Some of the studies are being carried out on the following aspects. :

- 1) Use of bioassay studies for estimation of fructose, glycogen, sialomucins etc. from the seminal vesicles.
- 2) Use of chromatography for the separation of reducing sugars.
- 3) To study the phylogenetic variations in presence or absence of seminal vesicles, cell types, nature of mucosubstances in these glands of large number of mammals belonging to different orders.
- 4) Seasonal variations in the seminal vesicles according to the different phases of the sex-cycle.

5) Effects of castration and androgen treatment in large number of animals which will be maintained in captivity.

The author feels gratified that he has made some of the preliminary observations. There is unlimited scope for further researches on gonads and sex-accessories. Some studies are going on in this laboratory on the aforementioned points, the results of which will be published in due course of time.

"To make an end is to make a beginning
the end is where we start from"

- T.S. Eliot.