

PREFACE

Department of Zoology, Yashwantrao Chavan Institute of Science, Satara is approved as sub-centre for M.Phil. studies in Zoology of the Shivaji University, Kolhapur. Presently a minor research project is ongoing which is funded by UGC on Angiogenesis studies. Hence Department of Zoology, Y. C. I. of Science Satara is actively engaged in the studies on angiogenesis.

Angiogenesis is a physiological process involving the growth of new blood vessels from pre-existing vessels. The process of angiogenesis is controlled by the balance between proangiogenic and antiangiogenic molecules. Angiogenesis may be a target for combatting diseases characterized by either poor vascularization or abnormal vasculature. Application of specific compounds which may inhibit or induce the creation of new blood vessels in the body may combat such diseases. Antiangiogenic therapies are being employed to fight cancer and malignancies where as proangiogenic therapies are being explored as options to treat cardiovascular diseases. Clinical research in therapeutic angiogenesis is ongoing for variety of atherosclerotic disease like coronary heart disease, peripheral arterial disease wound healing disorders etc. (Folkman, 1996, 1998). Therefore any new antiangiogenic factor could find a use in the treatment of these diseases as well as in cancer therapy.

Antiproliferative activity and apoptotic effect of tick salivary on human HeLa cells have been studied by Kazimirova *et al.*, 2009. After reviewing the literature role of glycosaminoglycans and shark cartilage was noted and related work on Tick Salivary gland was also studied. In the present investigation influence of mucins from salivary glands on angiogenesis was selected for study.

Chick embryo was used as an animal model because of following advantages.

- Eggs for incubation are easily available at any time.
- Eggs to incubate and study embryonic development in chick embryo.
- Easy access to the vascular network of CAM.
- Low cost, lack of immunocompetence in the early development and avoidance of animals for experimentation.

In the present investigation salivary glands and digestive glands of *Ariophanta pulmonata* are used. The effects of salivary and digestive gland extracts prepared in acetone and alcohol and the incubated eggs treated at 48, 55, 66, 72, 88 and 96 hrs and studied for angiogenesis at 144 hrs of development.

The dissertation is divided into four chapters. The first chapter includes introduction, review of literature on angiogenesis and antiangiogenesis.

The reasons that stimulated present investigation to undertake the plan of the proposed research work. The second chapter deals with material and methods employed in the present investigation. Chapter third is confined to observations and results. Fourth chapter includes analysis and discussion and concluding remarks. The references cited in the various chapters will be summarized at the end of the dissertation as bibliography.

I assume responsibility for the opinions expressed in the present dissertation and for omission and errors if any. I feel present dissertation will be interesting, informative and stimulatory to the readers and research scholars.