Therapeutic uses of Enzymes

Several enzymes have been used in the clinical field in treatment of various pathogenic conditions. Since, the enzymes are inactivated in the gastrointestinal tract, hence these are administered parenterally. Some of the examples of such enzymes are as follows:

(1) Thromboplastin : This is prepared by lysis of the blood palatelets. This is used for blood coagulation.

(2) Fibrinolysin : It is prepared by activating fibrinolysinogen by streptokinase. This preparation is used in the treatment of *venous thrombosis, pulmonary* and *arterial embolism.*

(3) Urokinase : It is prepared from human urine. It is used in the treatment of pulmonary embolism and in myocardial infarction to dissolve the clot.

(4) Hyaluronidase : It is prepared from mammalian testes. It acts by depolymerising hyaluronic acid and increasing tissue permeability. It is used in the treatment of traumatic or postoperative oedema.

(5) Streptokinase : It is produced by certain strains of beta hamolytic Streptococci. It causes fibrinolysis and dissolution of clot. It is used in the treatment of hemolhorax and haematoma.

(6) Pancreatin : It is contains amylase, trypsin and lipase. It is used as *replacement therapy* in chronic pancreatitis, fibrosis of pancreas and cancer of head of pancreas.

(7) Pepsin : It is obtained from hog stomach. It is used in the treatment of *gastric achylia* (congenitally undeveloped gastric glands).

(8) Rennin : It is obtained from the glandular layer of calf stomach and is used in the therapy of gastric achylia.

(9) Asparaginase : The enzyme *asparaginase* is used in the treatment of leukemias. The tumor cells have been found to depend upon the asparagine supply from the host cells for their growth and multiplication. *Asparaginase* administration reduces the asparagine content of the host cells drastically which in turn depresses the viability of the tumor cells. w