INTRODUCTION:

Suppositories are medicated solid drug delivery systems generally intended for use in the rectum\(^1\). Several unwanted side effects and disadvantages inherent to oral therapy led to focused attention on the rectal route of administering drugs, especially, in Europe. Rectal suppositories are much preferred in pediatric and geriatric patients with difficulties in swallowing solid oral dosage forms. These are also the dosage form of choice for unconscious, semi conscious patients and those suffering from nausea, vomiting, gastrointestinal ulcers etc. Major factors affecting the absorption of drugs from suppositories are anorectal physiology, suppository vehicle and the physicochemical properties of the drug\(^2\).

Suppositories generally carry medicaments such as emollients, astringent, antiseptic and local anesthetics to exert local action on the rectal mucosa. They are often used as a means of projecting medicaments such as hypnotics, tranquilizers, antispasmodics, non-steroidal anti-inflammatory agents (NSAID) etc for systemic action. The advantages of administration of such medicaments in the form of suppositories is that portal (hepatic) circulation is bypassed and thus preventing or retarding the biotransformation (first pass effect) of drugs in the liver. Similarly pH conditions and activities of gastrointestinal enzymes are bypassed. Drugs such as NSAIDS that cause gastric irritation leading to gastrointestinal ulceration and bleeding can be safely administered by rectal. Sometimes suppositories can give blood levels comparable even to the intravenous injections, except 30 minutes lag period.

Further advantages include:

(a) Improved enzymatic drug stability,

(b) Higher drug load,

(c) Constant and static environment,

(d) Improved patient compliance, particularly for children and elderly people with swallowing difficulty, (e) avoidance of overdosing\(^3\). Drugs are introduced into the rectum either as solid (suppositories) or as liquid (enemas) for local and systemic action\(^3\) (\textit{4aceclo paper}). Rectal route of administration is specifically useful for infants and children who have difficulty in swallowing oral medicine. Blood draining the lower part of the rectum largely by-passes the liver so that
drugs showing a high first-pass metabolism when given orally are more effectively absorbed when administered rectally\textsuperscript{4}.

The suppository may be useful for long-term treatment of chronic diseases like essential hypertension, rheumatoid arthritis, asthma, diabetes, AIDS, anemia, etc. Many researchers have concentrated their efforts in rectal drug absorption on those drugs, which currently must be injected parenterally to provide effective therapy (e.g., antibiotics and polypeptides)\textsuperscript{5}. In view of the above considerations, suppositories can be stated as having greatest potential as convenient dosage forms in the treatment of chronic health disorders such as rheumatism and cardiovascular diseases, especially among the elderly patients.