

PHARMACEUTICS-I- BP103T

UNIT: UNIT: 3 (Monophasic liquids, Biphasic liquids)

CLASS: 2

TOPIC: Monophasic liquids

Enemas

• Enemas are aqueous or oily solutions or suspensions or o/w type emulsions, which are intended to introduce into rectum for cleansing, therapeutic or diagnostic purposes. • They are also used to cause evacuation and for local or systemic or therapeutic action of the medicaments

• DISPENSING Enemas are dispensed in coloured, fluted glass bottle along with rectal nozzle. • Now-a-days enemas are supplied in single use, squeeze plastic bottles or disposable polyethylene or polyvinyl chloride bags sealed with rectal nozzle, which should be lubricated before administration

DIRECTION: Warm up to the body temperature (37 ° C), before use (only for large volume enemas) and administer as directed. • STORAGE: Enemas should be stored in a cool and dark place.

• LABEL : Label should bear all necessary requirements of liquid dosage forms, except dose.

• Auxillary label-FOR RECTAL USE ONLY. • LUBRICATE THE NOZZLE BEFORE USE. • WARM TO THE BODY TEMPERATURE BEFORE USE.-(ONLY FOR LARGE VOLUME ENEMAS) • STORE IN A COOL AND DARK PLACE. • USE WITH IN TWO DAYS AFTER ISSUE OR DISCARD THE REMAINING PORTION AFTER TWO DAYS OF ISSUING. • KEEP AWAY FROM THE REACH OF CHILDREN.

Advantages- 1. Suitable for local and systemic effect also 2. The drugs which are not given by oral or parenteral routes preferred by this route 3. Administered in large volume 4. Used for study of lower GIT, if contain x ray contrast medium

Disadvantages- 1. Patient uncomfortable 2. Require assistant or nurse for administration

Types of enema • There are three types of enemas- • 1) Cleansing enemas • 2) Therapeutic enemas • 3) Diagnostic enemas

1. Cleansing enemas These are also called Evacuating enemas . They are used to evacuate faeces in constipation and before any surgery of the gut. • Volume of enema is depending upon the age and condition of the patient. • The large volume enemas should be warmed to body temperature (37°C),before administration to prevent cold shock. (warm water stimulate intestinal mucosa and cold water produce cramping

2. Therapeutic enemas These are Medicated enemas .These are used to produce medicated effects in the bowel or in lower part of the colon in children and comatose patients. • This action may be obtained by its local action(as in the case of piles, ulcerative colitis and inflammatory bowel disease) or systemic(therapeutic) action • They contain therapeutic agents like, Sedatives :Chloral hydrate,Paraldehyde Anthelmintics :Quassia(for thread worms) Anti-inflammatory agents :Corticosteroids(for ulcerative colitis) Nutrients :Vitamins,Minerals

3. Diagnostic enemas They contain radio opaque substances,which are used for X-ray examination of lower bowel or colon part. Eg: Barium sulphate suspension

Formulations of enema

1. medicament- • Laxative-e.g. glycerine, soft soap • Sedative-e.g. chloral hydrate • Anthelmintics-e.g. quassia Drug must be soluble in suitable solvents Method of preparations-simple solution method

Liniments

• Alcoholic or oily clear solutions intended for applications to the skin with friction or massage and should not be applied to broken skin. • They are rubbed onto the affected area; because of this, they were once called embrocation. • They are applied with friction and rubbing of the skin, the oil or soap base providing for ease of application and massage.

General uses of Liniments Antipruritic – used to relieve itching, Astringents – causes biological tissue to contract, Emollients - products that soften skin or treat dry skin, Analgesics-reduce pain Rubefacient-Substance that causes redness (Rubar), Counterirritant- an agent applied locally to produce superficial inflammation with the object of reducing inflammation in deeper adjacent structures.

Advantages- 1. Used as rubefacient, counter-irritant and penetrating action in skin

Disadvantages- 1. Liniments required rubbing so patient may be uncomfortable 2. Alcoholic or hydroalcoholic solutions may produce irritation to skin

Formulation component of liniment

Vehicle: Alcohol, oils like peanut oil, sesame oil, cotton seed oil etc. Solvent select based on action whether massage or deep penetration into skin needed. Flavouring agent: Rose oil, jasmine oil, lemon oil etc. To enhance acceptability of the product by pleasant smelling. Medicaments: Counter irritant-camphor Analgesics- methyl salicylate Therapeutic purpose

The vehicle should be selected for the type of action desired (rubefacient, counterirritant, massage) and also on the solubility of the desired components in the various solvents Prepared in the same manner as solutions.

There are two types of Liniments: ALCOHOLIC LINIMENTS, OLEAGINOUS LINIMENTS

Alcoholic liniments: 1. used generally for their rubefacient, counterirritant mildly astringent, and penetrating effects 2. penetrate the skin more readily than do those with an oil base. 3. Alcohol used as solvent 4. E.g.

Oleaginous: 1. Milder in their action but is more useful when massage is required 2. less irritating to the skin, depending on their ingredients 3. may function solely as protective coatings. 4. Oil used as solvent 5. E.g. camphor liniment

Liniments should NOT be applied to skin that is bruised/Broken because excessive irritation might occur. This application should be marked for “external use only” Dermatologist prescribe products of this type but only those containing the rubefacients are advertised extensively and used by consumers for treating minor muscular aches and pains.

Dispensing-amber coloured container, narrow mouthed bottle, tightly closed with coloured plastic screw cap

Label- 1. for external use only 2. Not to be applied on broken skin 3. Shake well before use Storage- Store in cool and dark place, away from the flame

Lotions

- Clear solutions aqueous or oily, suspensions or emulsions intended for applications to skin without friction.

Advantages- 1. They are soothing and applied gently by dapping 2. Comfortably spread without rubbing 3. Alcoholic lotions provide cooling effect on applications

Disadvantages- 1. Alcoholic or hydro-alcoholic lotions gets dried easily, hence not suitable for prolonged action

Formulation

Vehicle: Alcohol, isopropyl alcohol, water, liquid paraffine isopropyl myristate etc. For making the content soluble. Cosolvent: Glycols, glycerine, propylene glycol, PEG 400, 600 FOR INCREASING THE SOLUBILITY OF DRUGS IN SOLVENTS. Flavouring agent and colouring agent Colours for FD&C Cherry, raspberry, apple, rose To enhance acceptability. Medicaments: Astringent-copper, zinc shipmates Keratolytics, fungicidal, bacteriostatics Therapeutic purpose. Preservatives: Chlorbutanol Benzyl alcohol B-phenylethyl alcohol etc In order to prevent microbial growth

Methods of preparations • Simple solution method

Dispensing-coloured fluted bottles • Labelling 1. For external use only 2. Shake well before use • Storage-well closed , air tight container cool place.