

Drug Delivery System

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Abstract: For The Thousand Year of Human

Keyword: Percentage, Drug, Delivery System, Idial Charechter, Civilization civilization have applied substance to skin cosmetics and medicinal agents not until the 20th century the skin come to use as a drug delivery root patches of the drug delivery route patches of the drug adventure 1944 recentally the concept of medicinal and pharmacological product

Introduction:

drug administered in the conventional dosage form usually product undesirable toxic effect cause the drug, patches of the drug in the TDDs of the scope in developed in year 1980 also cause the membrane moderate delivery The drug are throw the skin in the transdermal by the skin in deliver by the controlled rate of the systemic circulation also that blood circulation.

Advancement:

drug by passing hepatic and pre systemic metabolism therapy by increasing bioavailability, The bioability of the drug administrate rate and extent to active substance is absorbed from a pharmaceutical from and become available site of action in patches. Which the amount of blood present in body part that is bioavailability effect of the drug Risks of the inconveciences of root of drug administration, route of drug administrated by the local and systemic. Local route of drug in topic in the skin, inhalation (Nasal) rectal vaginal and eye drop etc.

Some patient complaints due to elimination of multiple dosage intraconnection.

Self-administration are possible.

Advantages:

1. Avoided chemically harm GI environment of drug degradation and integration of tablet capsule are acidic and basic environment are body in preserve
2. GI not distress and factors of gastric intestinal tract empty intestinal motility, time are consumed short and effect are not root and root of administration.
3. Avoided by the metabolism of the drug in that liver are the large amount of metabolism
4. drug availability of the high in the drug effective treated
5. Biological half-half life of the effective use
6. Decrease the intra and internally patent variety
7. Potasium of drug bind in the responsive
8. Reduce in the dosage of frequency are inhabit (less) the action of patient compliance

Disadvantages:

1. Some patient are the developed contact dermatitis the site of application from one or more system of component, necces-sitating and discontinuation
2. High cost and price
3. Ionic drug are not used
4. Only unionized drug are used
5. Hydrophilicity and lipophiacity are the imbalanced drug are the transfer membrane not constituent
6. Particle size of drug are the large, inreduce size and enhancement of drug
7. Some patient are chords allergic reaction like unconsciousness burning itching
8. Molecular weight is less than 500 Da is essential
9. The drug sufficient quantity of hydrophilic in nature (aqueous) liquid solubility
10. TDD are they certain feasible potency of drug only
11. Do not drug pusitle fastion
12. Limit of skin impermeability of the candidates

Ideal characteristics of TDDs

1. The skin page of 4.2 to 5.6 solution are clear and plain smooth
2. pH range use the avoid damaged to the skin irritation cause the skin (inflammation cause)
3. Therapeutic drug action that optimum partition coefficient
4. Should be that drug are low melting point (less than 200c) show that used
5. Bedsides should be less than 40 cm²
6. Package size greater than 20cm² to 39 cm²
7. Self life after 2 years
8. Self half life at 11/2 drug in the patch
9. Self life greater than 2 half years
10. Drug should be known allergic reaction and non irritating
11. Drugs should have affinity for both lepophylic and hydrophytic phases
12. Drugs should be patent with daily dose of the order the few mg/day
13. Molecular weight of drug less than patches are 1000 daltons
14. PH value of Unionized and ionized drug are predominant

Condition for used as thermal patches:-

- a. It is alternative method of drug transdermal system
- b. Patient has intorable side effect including constipation enable to the oral medicines that used patches
- c. Unconsciousness of the body No response, attack, sweep mood, that use in patches advantages
- d. Pain control maight be improved by reliables administration
- e. Synergistic effect of used combination with other different strategies

Basic components of TDDS

- Polymers matrix
- Drug
- Other excipients like plasticizers and solvents
- Permeation

- Pressure sensitivity adhesive
- Release liner
- Backing laminates

Type of TDDS

1) Single layer drug adhesive

Single layer drug-adhesive also that adhesive layer of the system are contain the drug epidermis layer of skin the therapeutic effect of patches, in this type of patch the adhesive layer not only serves to adhere various layes to the congugated. Together along with entire system to the skin response in release systemic drug and excipients with skin adhesive serve formulation and foundation release the fusion.

Drug-in-Adhesive Single-Layer

Backing membrane

Adhesive layer

Drug

Liner

2. Multi - layer -adhesive

Multi layer of drug in the patch is simmlar layer of the system, multi- layer system in different that is adds another layer of drug is adhesive Separate by a member (but not all species) patch also the temporary linear layer and permanent blocking the drug release from dependent on the membrane permibility and diffusion of drug are metabolites. Both layer show that complitude they drug accrued there are diffusion phenomenon

Baking

Drug-in-Adhesive

Membrane

Drug-in-Adhesive

Liner

3. Reservoir:

Unlike a single layer and multi layer drug also that adhesive system, also that inter trans dermal system, also that single and separate layer liquid compartment contain the solution or suspension, separated adhesive force of layer That drug recover it totally encapsulation in shallow, compartment from drug impermeable metallic plastic 1 aminat with a rate of release zero order Reservoir system included of liquid compartment contain sol suspension between baking layer and semipermeable membrane also adasive release linear

4. Matrix type:

Matrix system has a drug layer of a semi solid containing a drug solution and suspension this layer of the drug in the administret adhesive drug lines membrane cross the drug in the skin layer. Skin layer approx in the medicat by the which adhesive Direct

Skin irritation studies

Stability studies

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