THE USE OF EXCIPIENTS IN TRANSDERMAL THERAPEUTIC SYSTEMS

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Excipients in the composition of transdermal therapeutic systems (TTS) are classified according to various characteristics, one of the main ones being classification according to functional purpose. The main groups are mold-forming (film-forming) substances; solubilizers, plasticizers, adhesives, penetrants, preservatives and flavors. The need to use a sufficiently large number of auxiliary substances is explained by the fact that it is impossible to obtain a high-quality drug from one basic polymer. There is a need to use other excipients to modify certain physical or physicochemical properties of TTS, such as, for example, adhesiveness, elasticity, and others. The same excipient can perform different functions.

For example, to increase the adhesive properties, PEG, PVP, starch, glycerin and other hydrophilic substances that can act as plasticizers and penetrants are introduced. When creating TTS, excipients belonging to different classification groups can be used.

Polymers of natural origin are used as the main (basic) auxiliary substances and are represented by different groups: of animal (chitosan, collagen, gelatin, elastin); plant (alginates, agar-agar) and microbial origin (dextrin, xanthan gum). The group of polymers of semi-synthetic origin, which are used in the composition of TTS, is represented by methyl cellulose, sodium-carboxy-methylcellulose, oxypropylethylcellulose, etc.; synthetic (polyvinyl pyrrolidone, polyvinyl alcohol, polyethylene oxide, polyacrylamides, etc.). Along with the specified auxiliary substances, various other excipients are used. Hydrophilic non-aqueous solvents such as propylene glycol, glycerin, ethanol are used as solvents and co-solvents in TTS. Esterified fatty acids, sorbitan monooleate, glyceryl monooleate, methyl laurate, etc. are used as solubilizers and plasticizers.