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Development and evaluation of propellant free pharmaceutical foam formulations

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Pharmaceutical foams are active ingredients bearing colloid systems, where gas is dispersed in the continuous liquid phase. They are designed mainly for dermal application and several foam formulations are available also for vaginal and rectal use. Numerous advantages are attached to foams when compared to traditional vehicles, resulting in increased patient compliance. Amongst others, the suitable composition contributes to quick, oily residue-free and convenient application even on large or hairy areas, as well as for good drug transfer rate. While in aerosol cans creamy foams are formulated with propellant from emulsions, propellant free pump devices which enable the production of light textured foams from microemulsions. Aerosol foams can be evaluated by pharmacopoeial tests (Ph. Eur.), amongst which relative foam density determination is the only applicable for microemulsion foams. Aside from the traditional methods, based on physicochemical characterization (eg. density, viscosity, morphology), image analysis provides a new aspect for the classification of foams based on their structure. Photos taken after actuation hold information on bubble size and shape that can be used in the development of foam formulations. Bubble size is influenced by several parameters, like the composition of the foam formulation, the type and amount of surface active agent and also the liquid phase viscosity.

Biography

Dóra Farkas has obtained her MSc Degree as a Pharmacist at Semmelweis University Budapest, Hungary. Currently, she is doing her PhD in Pharmaceutical Technology at the Department of Pharmaceutics (Semmelweis University). She is doing researches in the field of pharmaceutical foams.

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