

Formulation and evaluation of galantamine gel as drug reservoir in transdermal patch delivery system

ABSTRACT

Galantamine hydrobromide is formulated in tablets and capsules prescribed through oral delivery for the treatment of Alzheimer's disease. However, oral delivery of drugs can cause severe side effects such as nausea, vomiting, and gastrointestinal disturbance. Transdermal delivery of galantamine hydrobromide could avoid these unwanted side effects. In this work, galantamine hydrobromide was formulated in gel drug reservoir which was then fabricated in the transdermal patch. The in vitro drug release studies revealed that the drug release from the donor chamber to receptor chamber of Franz diffusion cell was affected by the amount of polymer, amount of neutralizer, amount of drug, types of permeation enhancer, and amount of permeation enhancer. Visual observations of the gels showed that all formulated gels are translucent, homogeneous, smooth, and stable. These gels have pH in the suitable range for skin. The gel also showed high drug content uniformity. Hence, this formulation can be further used in the preparation of transdermal patch drug delivery system.

Keyword: Galantamine; Alzheimer; Receptor; Drug

