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Abstract

Title: Development and optimization of liquid formulation of poorly water soluble drugs

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Drotaverine Hydrochloride Injection

Drotaverine hydrochloride is an antispasmodic vasodilator hypotensive drug. It is used in the treatment of functional bowel disorders and alleviating pain in renal colic.

Currently, the marketed formulation of Drotaverine hydrochloride injection consists of ethanol as a co-solvent. Objective of present research study was to develop stable, effective and cost effective formulation without ethanol.

Forced degradation study was performed to check stability of formulation and suitability of selected analytical method. Formulation optimization was done using Quality by Design approach. The manufacturing formula and the process can be used for commercial production. Thus, the objective of formulation development of safe, stable and cost effective injectable formulation of Drotaverine hydrochloride which is ethanol free is successfully accomplished.

Nepafenac and Moxifloxacin ophthalmic suspension

Moxifloxacin belongs to a class of antibiotics called as fluoroquinolones. It is used to treat bacterial conjunctivitis. It works by killing the bacteria that cause infection. Nepafenac belongs to a class of medications called as nonsteroidal anti-inflammatory drugs (NSAIDs). Ophthalmic formulation of Nepafenac is used to treat eye pain, redness, and swelling in patients who are recovering from cataract surgery. It works by inhibiting the production of certain natural substances that cause pain and swelling.
Currently, there is no marketed formulation available as a combination of Nepafenac and Moxifloxacin. Combination of Nepafenac and Moxifloxacin facilitates patient comfort and ease of use by getting relief in a single administration.

The assay of both APIs was found to be satisfactory with HPMC but, redispersibility of the formulation was not satisfactory and later was resolved by addition of surfactant (Tyloxapol).