

CHAPTER I



INTRODUCTION

Piroxicam belongs to the class of acidic, non-steroidal anti-inflammatory drugs (NSAID). The compound is quite efficient in the treatment of rheumatoid arthritis, osteoarthritis, ankylosing spondylitis and acute pain in musculoskeletal disorders as well as acute gout (Reynolds, 1989; Vaccarino, Sirtori and Bufalino, 1989; Bassey, 1987). The drug is highly potent, has a long half-life of over 30 hours which makes it suitable for once daily dosage (Eandi et al, 1989). The drug is available in various dosage forms namely capsule, dispersible tablet and topical gel. Recently, a parenteral formulation of piroxicam has been developed and launched. Such a formulation reportedly allows more rapid pain relief, especially in acute conditions such as trauma or postoperative pain, as anticipated by pharmacokinetic and bioavailability data (Fourtillan, 1987). Another benefit of injectable formula over oral dosage form is in the case of peptic ulcer. This dosage form may resolve bleeding symptom caused by NSAID (Doherty, 1989). For the reasons of acute condition and low side effect, it would be ideal to have a locally developed formulation of piroxicam injection with low price to be manufactured and sold in the market. This would be benefit for all consumers who are necessary to receive this kind of dosage form.

Due to piroxicam is insoluble in water and it is only slightly soluble in lower aliphatic alcohols, methanol, ethanol as well as in some polar organic solvents. (Florey, 1972). Thus, to obtain such a dosage form, various methods were used, such as using cosolvent, complexing agents, and/or combination of these methods.

Objectives

1. To formulate piroxicam injections using cosolvents and complexing agent.
2. To compare the quality of formulated piroxicam injections with that of innovated product.

Significance of the study

1. To establish a good and low-cost of piroxicam injection formulas which can be manufactured in drug industry.
2. To increase the item of this kind of dosage form so that the consumers can select an appropriate one which is the product that they can afford.
3. It will be benefit consumers if the formulated piroxicam injection had the same quality as that of the innovated product, the cost of payment for using such a product would be reduced. Importing an innovator's product is no longer necessary.