

ABSTRACT

An oral, delayed released onset dosage form intended to approximate the chronobiology of rheumatoid arthritis was proposed for colonic targeting. The time dependent capsular based system coated with cellulose acetate phthalate (CAP) was designed for chronotherapeutic delivery of Etoricoxib.

Bodies of hard gelatin capsules were treated with formaldehyde. 80 mg of Etoricoxib were filled into treated capsule bodies and plugged with polymers guar gum, hydroxypropyl methylcellulose 15cps, sodium alginate and cross carmellose sodium at concentrations (20, 30 and 40 mg). The bodies of the capsule were then closed with untreated caps and completely coated with 5% cellulose acetate phthalate to prevent variable gastric emptying.

The whole system, thus produced is '**Modified Pulsincap**'.

All formulations were determined to lagtime. The ability of Pulsincap to provide colon specific drug delivery was assessed by *in vitro* drug release studies in buffer solution at pH 1.2 for 2 h, at pH 7.4 (Simulated intestinal fluid) for 3 h and at pH 6.8 (Simulated colonic fluid) for remaining hour. The results indicated that with formulations containing 30 mg of guar gum and 40 mg of sodium alginate shows negligible drug release took place in the small intestinal fluid, but the major portion of the drug was released in the colon.

It was therefore concluded that Etoricoxib could be successfully colon targeted by the use of 'Modified Pulsincap'.

Keywords:

Chronobiology, Rheumatoid Arthritis, Modified Pulsincap.