ABSTRACT

The intent of current investigation is to make colon targeting flurbiprofen and ketorolac tromethamine matrix and compression coated tablets using time dependent hydroxypropyl methylcellulose, sodium alginate and pH sensitive Eudragit S100 that retard the liberation of drug in upper gastro intestinal system and also show progressive release in colon. The prepared formulations were optimized using dissolution tests and evaluated for colonic delivery by x-ray imaging and pharmacokinetic studies in healthy humans. The optimized formulation of flurbiprofen and ketorolac tromethamine showed 7.26±0.05 % & 6.75±0.49% (negligible release) in the initial lag period of 5 h followed by progressive release up to 99.27±0.46 % & 97.47±0.93% for 24 h respectively. The x-ray imaging study in human volunteers illustrated that the tablets arrived to colon with no loss of integrity in the upper gastrointestinal tract. Cmax of colon targeted compression coated tablets was 10792.62 ng/ml at Tmax 10 h for flurbiprofen and 3562.67 ng/ml at Tmax 10 h for ketorolac tromethamine where as in case of immediate release tablets the Cmax was 15684.79 ng/ml at Tmax 3 h for flurbiprofen and 4482.74 ng/ml at Tmax 2 h for ketorolac tromethamine which clearly indicates the capability of compression coated tablets to give colon targeting. Development of compression coated tablets was suitable to target flurbiprofen as well as ketorolac tromethamine to colon.