HEPATIC EFFECTS OF CONCOMITANT ADMINISTRATION OF CELECOXIB AND MISOPROSTOL IN RATS

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Various adverse effects (gastrointestinal and renal) are associated with the administration of nonsteroidal anti-inflammatory drugs, such as celecoxib. Replacement of prostaglandin E_1 via misoprostol administration is currently utilized to prevent gastrointestinal ulcer formation. We have previously reported that misoprostol intensified celecoxib-induced renal toxicity. This study investigated the effect of celecoxib on the liver in the presence and absence of misoprostol.

Following randomization into four groups ($n \geq 5$), male Sprague-Dawley rats were administered either placebo or 100 μg/kg misoprostol via oral gavage (twice daily) on days 1 to 9. From day 3 to 9, one placebo and one misoprostol group received one daily dose of 40 mg/kg celecoxib. Whole livers were collected from sacrificed rats on day 10 and stored in -80° C until analysis. A small section was removed from each liver and embedded in paraffin. Samples were sectioned for each animal and stained with hematoxylin and eosin. Slides were examined for histopathological structural changes by a certified pathologist unaware of treatment groups.

All slides were within normal limits. No portal inflammation, lobular inflammation, hepatocyte injury, or necrosis was observed.

No significant histopathologic change was seen in the liver sections from these animals. The absence of pathological changes indicate that neither celecoxib, misoprostol, nor the co-administration exhibit hepatotoxicity in rats during this experiment.