عنوان مقاله:

Evaluation of spasmolytic effects of naringenin on ileum contraction and intestinal charcoal meal transit: Involvement of ATP-sensitive K+ channels

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خلاصه مقاله:

Introduction: Naringenin is a flavonoid constituent of many herbal plants, including citreous fruits. Biological studies have suggested various therapeutic effects for naringenin, including protective effects on gastrointestinal (GI) motility. The present study was performed to investigate the involvement of ATP-sensitive K+ channels on the effect of naringenin in rat ileum motility. Methods: Ileum contractions were induced by either KCl or acetylcholine (ACh) in vitro. Inhibitory concentration-response curves were constructed for naringenin and diazoxide after exposure of rat isolated ileum to KCl (۲۰mM) or ACh (۵۰۰nM). The relaxant effects of naringenin and diazoxide were also examined in the presence of glibenclamide. Furthermore, oral effects of diazoxide (۲۵ mg/kg) and naringenin (۲۵, ۵۰ mg/kg) were also assessed on the intestinal charcoal meal transit in mice (n=۱۰) in the absence and presence of glibenclamide (۵۰ mg/kg). Results: Diazoxide and naringenin in a concentration-dependent manner inhibited ileum contractions induced by low bath concentration of KCl (۲۰mM). However, both drugs had no effect on contractions induced by a high concentration of KCl (۱۶۰mM). The inhibitory effects of diazoxide and naringenin were blocked by glibenclamide. Oral administration of diazoxide and naringenin significantly reduced the intestinal transit of charcoal meal. The delay in the intestinal transit was blocked by the oral dose of glibenclamide. The effect of naringenin on the rat intestinal strip pre-contracted with the KCl was relatively similar to that of ATP-sensitive K+ channel opener (diazoxide). Conclusion: This research supports that ATP-sensitive K+ channels are involved in the rat small intestinal smooth muscles relaxation induced by naringenin.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: