

SPASMOLYTIC EFFECT OF ANETHUM GRAVEOLENS L. METHANOL EXTRACT ON ISOLATED RAT ILEUM

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Anethum graveolens L. is a member of the *Apiaceae* family and more commonly known as dill. Dill has been used for gastrointestinal ailments such as flatulence, indigestion, stomach ache and colic. It has therapeutic effects such as mucosal protective, antisecretory, antimicrobial, antispasmodic, antihypercholesterolaemic and antihyperlipidaemic. The aim of our study was to examine the effects of the dill methanol extract on spontaneous and acetylcholine-induced contractions on isolated rat ileum. Segments of the rat ileum were suspended in an organ bath. The isolated ileum had been treated with the methanol extract of dill in cumulative concentrations (0.003-1mg/mL). In the second series of experiments, acetylcholine (5-1500nM) was cumulatively added to the bath in the absence and presence of methanol extract of dill (0.3-1mg/mL). Cumulative concentrations of methanol extract of dill significantly reduced the spontaneous rat ileum contractions ($p < 0.01$) with EC_{50} value of 6.45 ± 0.87 mg/mL. The methanol dill extract concentration-dependently inhibited the contraction induced with acetylcholine ($p < 0.01$), with an EC_{50} value of 0.41 ± 0.057 nM and 1.10 ± 0.29 nM (the EC_{50} value of acetylcholine was 0.06 ± 0.0097 nM). Our results showed the relaxant effect of the methanol dill extract on the isolated rat intestine. Extract of dill inhibited the spontaneous ileum contractions and contractions induced by acetylcholine. *Acta Medica Medianae* 2015;54(2):5-10.

Key words: dill, *Anethum graveolens L.*, methanol extract, acetylcholine, rat, ileum