Effect of *Acacia catechu* extract on isolate human umbilical vein

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Abstract

Thin layer chromatogram (TLC fingerprint) characterizing the constituents in the ethanol extract of *Acacia cathechu* is performed to assure the identity and quality of the extract studied. To assess the vasodilating effect and mode of action of *Acacia catechu* extract (ACE),isolated human umbilical vein (HUV) are used. The strips of isolate HUV with or without endothelium are induced contraction with KCl or histamine in the absence and in the presence of ACE, at the concentration which shows maximum inhibition response. Nitric oxide synthase (NOS) inhibitor,cyclo-oxygenase (COX) inhibitor,bradykinin receptor antagonist and potassium channel blocking agent are used in elucidating the role of mediators in producing vasodilating effect of ACE. The results show inhibitory effect of ACE on KCl-induced contraction of the endothelium-intact segment of isolated HUV. The responses are mediated by at least three different pathways involving release of endothelium-derived relaxing factors (EDRF). One of the alternative patway involves the production of prostacyclin. The second pathway involves production of nitric oxide. The last pathway possibly involves endothelium-derived hyperpolarizing factor (EDRF). Whereas bradykinin is unlikely to involve in mediating the vasodilatory effect of ACE.

Keyword : *Acacia catechu*, Endothelium-derived relaxing factor (EDRF), Nitric oxide, Prostacyclin, Potassium channel