Oral administration of polyphenolic compounds from cognac decreases ADP-induced platelet aggregation and reduces chronotropic effect of isoprenaline in rats

Titre	Oral administration of polyphenolic compounds from cognac decreases ADP-induced platelet aggregation and reduces chronotropic effect of isoprenaline in rats
Type de publication	Article de revue
Auteur	Carusio, Nunzia [1], Wangensteen, Rosemary [2], Filippelli, A [3], Andriantsitohaina, Ramaroson [4]
Editeur	Institute of Physiology, Czech Academy of Sciences
Type	Article scientifique dans une revue à comité de lecture
Année	2008
Langue	Anglais
Date	2008
Numéro	4
Pagination	517 - 524
Volume	57
Titre de la revue	Physiological research
ISSN	0862-8408
Mots-clés	Adenosine [5], Adrenergic [6], Alcoholic [7], Animals [8], Aorta, Thoracic [9], Cell [10], Collagen [11], Electron [12], Flavonoids [13], Heart [14], Isoproterenol [15], Male [16], Myocardium [17], Nitric [18], Phenols [19], Platelet [20], Polyphenols [21], Rats [22], Rats, Wistar [23]
Résumé en anglais	This study sought to evaluate whether consumption of polyphenol extract from Cognac (CPC) modulates platelet activation and cardiovascular reactivity in rats. Male Wistar rats were treated daily for 4 weeks by intra-gastric gavage receiving CPC at 80 mg/kg/day or vehicle (5 % glucose). Platelet adhesion and aggregation in response to different activators were assessed. Cardiac and vascular reactivity in response to various agonists as well as NO measurement by electron paramagnetic resonance technique were investigated in isolated heart and thoracic aorta. Oral administration of CPC decreased platelet aggregation induced by ADP but not by collagen. CPC did not affect adhesion to collagen. The chronotropic but not the inotropic response to isoprenaline was reduced without alteration of NO production in hearts from CPC-treated rats. CPC treatment did not affect ex vivo relaxation to acetylcholine nor NO content of rat aorta. CPC did not significantly alter the response to phenylephrine in aorta despite the participation of endothelial vasoconstrictor products. In summary, chronic treatment with CPC has no impact on ex vivo vascular and cardiac reactivity; however, it reduced heart work and platelet aggregation. These data suggest the existence of compounds in Cognac that may decrease the risk of coronary thrombosis and protect against some cardiac diseases.
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