ANTIPLATELET EFFECT OF ACID GLYCOPROTEIN IN RABBITS

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Acid glycoprotein (AAG) is the acute phase protein. AAG has diverse functions in pathological conditions. The literature describes antiplatelet properties of AAG.

Study the antiplatelet effect of AAG in the model of arterial thrombosis on rabbits.

Arterial thrombosis was induced by ferric chloride (III) application on the common carotid artery during 10 minutes. AAG was administered intravenously after modeling of arterial thrombosis during 2 days (the short course) and 7 days (long-term course) in three doses of: 150, 300 and 600 mg/kg. The control group was administered with the saline in dose of 10 ml/kg intravenously. The prothrombine time, activated partial thromboplastine time, the number of peripheral blood platelets were analyzed. Common carotid artery were excised at occlusion, fixed in 10% neutral buffered formalin and their weight was measured. The surface of arteries were evaluated histologically.

AAG administration resulted in improved rheological properties of the blood. Most pronounced effect was observed after administration of 600 mg / kg AAG during 7 days. Activated partial thromboplastin time was higher than the controls by 55%. The weight of the thrombus was less than in control by 60%. Histological examination of carotid arteries evidenced about a dose-depend positive effect of AAG on arterial thrombosis. Administration of the AAG in the dose of 600 mg/kg during 7 days completely prevented thrombus formation in 50% of experimental rabbits.

We suggested that AAG has antiplatelet properties due to three possible mechanisms of action:

1) inhibition of the prothrombinase complex and the further reduction of platelet aggregation;
2) ADP-dependent inhibition of platelet aggregation;
3) AAG would be a donor of sialic acids for platelet, pericytes and endothelial cells; Sialic acids are able to increase the negative potential of the membranes of these cells, reducing the platelet aggregation.

BIOLOGICAL AND TECHNICAL ASPECTS OF MAP PRODUCTION IN EUROPE

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The history of Medicinal and aromatic plants (MAPs) overarches the time span of mankind. Regarding their botanical identity and their utilization/products these species are manifold.

Early forms as complemented by the up to-date areas of utilization (e.g. food and feed additives, dietary supplements and nutraceuticals) constitute powerful drivers for the exploitation (frequently overexploitation) of these natural resources.

Research, production as well as utilization of MAPs have been greatly affected by the availability of raw materials.

Production, i.e. wild-crafting and cultivation of good quality botanicals to be used safely and with efficacy have become preconditions both for the various forms of uses and the preservation of natural resources in high demand.

The domestication of unexplored feral genetic resources with an ultimate goal of cultivation renders it possible to best exploit the genetic potential of native floras (plant resources) and to produce reliable and good quality raw materials.

Important elements of these researches start with the genetic, eco-physiological study of species with a constant focus on their chemical traits. The study/elaboration of production technology has the aim of providing optimal preconditions for the production and accumulation of secondary metabolites of sufficient quantities and desired quality (chemical composition). As final elements of production, post-harvest as well as processing technologies are also aimed at preserving biomass and active principles.

Appropriate policies and legal frameworks, standards, etc. (Good Agricultural and Collection Practice, Good Manufacturing Practice, Fair Trade, etc.) have been elaborated to safeguard sustainable production as well as utilization.

Production trends with increasing popularity, e.g. organic production, where crops are produced with respect to their natural life cycles, aimed at producing both healthy commodities and adding value to the produce.