薬理と治療 ■ Japanese Pharmacology & Therapeutics〔国際文献略号：*Jpn Pharmacol Ther*〕
1990年8月20日発行 Vol. 18 No. 8 別刷

Hemostatic Effectiveness of Hemostatic Collagen Fleece (Novacol) in Heparinized and Aspirin Treated Rabbits

Milos Chvapil and Thomas A. Chvapil

Department of Surgery,
University of Arizona Health Sciences Center

発行所 ライフサイエンス出版 株式会社
TEL. 東京（664）7750（代表）

薬理と治療 Vol. 18 No. 8 Aug. '90

Hemostatic Effectiveness of Hemostatic Collagen Fleece (Novacol) in Heparinized and Aspirin Treated Rabbits

Milos Chvapil and Thomas A. Chvapil

Department of Surgery,
University of Arizona Health Sciences Center

Tucson, AZ 85724, U. S. A.

ABSTRACT

A total of 12 rabbits were divided into three groups and treated systemically with anticoagulants, either heparin (600 U/kg) or aspirin (0. 25 g/kg). The third group served as nontreated control. In each rabbit four skin, liver and kidney wounds were inflicted. Half of the bleeding wounds were treated topically either with gauze (controls) or collagen fleece (Novacol).

The anticoagulants significantly increased both the blood clotting time and the time of hemostasis of wounds treated with gauze. Topical administration of Novacol onto the bleeding wounds significantly shortened the bleeding time to values observed in control rabbit wounds treated with Novacol.

It is concluded that anticoagulant prophylaxis by heparin–like drugs or aspirin does not affect the hemostatic effectiveness of collagen which is achieved by different mechanisms than that of the above drugs.

INTRODUCTION

The high hemostatic effectiveness of pure collagen fibers textured in the form of woven fleece in otherwise intact animals has been documented[1–8]. Experimental evidence indicates that the hemostatic effectiveness of collagen is due to the adhesion of platelets to a fibrillar form of collagen, followed by a release–aggregation–clot formation cascade (the primary mechanism) or by changing osmolarity of the blood by the gelling effect of the collagen (secondary mechanism)[1, 4–6]. The main use of topical hemostatic agents is in the field of