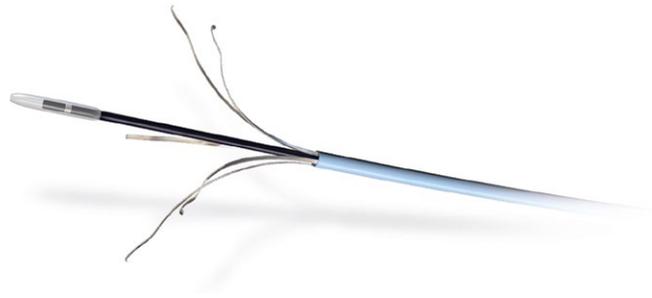


Study of **Flebogrif**[®] – A New Tool for Mechanical Sclerotherapy-Effectiveness Assessment Based on Animal Model

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Introduction

Sclerotherapy is the chemical occlusion of vessels using an intravenous injection of a liquid or foamed sclerosing agent that is used in the therapy of blood and lymphatic vessels malformations in the young, and for spider veins, smaller varicose veins, hemorrhoids and hydroceles in adults.

Material and methods

This study aimed to assess the effectiveness of mechanosclerotherapy of venous veins with a new device-Flebogrif[®] - based on an animal model. The experiment was performed on nine Polish Merino sheep weighing 40-50 kilograms. The animals were anesthetized intravenously. The material was divided into three groups: two experimental (1 and 2) and control (3) group.

The first experimental group was treated with the use of Flebogrif[®] and a sclerosant simultaneously, while only Flebogrif[®] was used in the second experimental group. **Flebogrif[®] was applied into the lateral saphenous vein of both pelvic limbs.** The vessel wall thickness was estimated at four points of the histological image in mm (V1, V2, V3, V4). For one month, the animals were euthanized, and the occlusion rate of the treated veins and changes in the vein wall were determined. Histological slides were analyzed under a light microscope and histometry of the vein wall was performed. The Shapiro-Wilk test and the quantity of the investigated parameter groups allowed for using a non-parametric method at four points to compare thickness measurements (the Mann-Whitney test), with $p < 0.05$. **The Mann-Whitney test indicated statistically significant differences between both experimental groups.**

Results

The results obtained from morphometrical and histological analysis showed better results in the first experimental group than those of the second experimental group. Finally, statistical analysis revealed significant differences between the both the experimental group and control group in morphological analysis. **The achieved results allowed us to conclude that the simultaneous use of Flebogrif[®] and a sclerosant yielded better results of vein lumen reduction than the use of Flebogrif[®] alone.**

