

## 5-Year Results of ASVAL Procedure in Patients with Primary Varicose Veins

© S.A. MIRAKHMEDOVA\*, E.I. SELIVERSTOV, E.A. ZAKHAROVA, O.I. EFREMOVA, I.A. ZOLOTUKHIN

Pirogov Russian National Research Medical University of the Ministry of Health of Russia, Department of Surgery (Head is Corresponding Member of Russian Academy of Sciences, prof. A.V. Sazhin), Moscow, Russia

### ABSTRACT

**Objective.** To assess mid- and long-term results of the ASVAL procedure in patients with primary varicose veins.

**Material and methods.** 92 patients (59 women and 33 men) All the patients had primary varicose veins and great saphenous vein (GSV) reflux not lower than the upper third of the calf. Limbs were classified as C2 in 82 (80%) cases, as C2—C3 in 16 (16%) cases, and as C2—C4 in 4 (4%) cases. All the patients underwent isolated phlebectomy under local anesthesia with preservation of incompetent GSV. Patients were examined both clinically and by duplex ultrasound in 1, 2, 3, 4, 5 years after procedure. The data on varicose vein recurrence, persistence of GSVs reflux, and the need for surgical re-intervention were collected.

**Results.** Survival curve analysis during the 60 months follow-up showed an absence of GSV reflux in 61, 53, 46, 44 and 32% at 1, 2, 3, 4 and 5 years after procedure and absence of varicose recurrence in 89, 77, 67, 53 and 33% legs at 1, 2, 3, 4 and 5-year follow-ups respectively. Re-operations were performed only in three patients.

**Conclusions.** One third of GSVs remains competent at 5 years after ASVAL procedure. Every third limb after vein-sparing operation remains free from new VVs during 5 year follow up period. ASVAL method should be considered as one of the options for VVs patients.

*Keywords:* varicose veins, isolated phlebectomy, ASVAL, long-term results.

### INFORMATION ABOUT THE AUTHORS:

Mirakhmedova S.A. — <https://orcid.org/0000-0003-3549-4146>

Seliverstov E.I. — <https://orcid.org/0000-0002-9726-4250>

Zakharova E.A. — e-mail: [ea\\_zakharova@inbox.ru](mailto:ea_zakharova@inbox.ru)

Efremova O.I. — <https://orcid.org/0000-0001-5906-8120>

Zolotukhin I.A. — <https://orcid.org/0000-0002-6563-0471>

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## Introduction

The prevalence of chronic venous disease (CVD) is fairly well known, as many epidemiological studies have already been conducted around the world [1–3]. Approximately one-third of men and women aging between 18 to 64 years are suffering from varicose veins [4, 5].

According to traditional descending pathophysiological concept of varicose veins development, the onset and subsequent progression are associated with the appearance of reflux in the main trunk of GSV, which leads to varicose transformation of its tributaries. Therefore, the ablation of an incompetent GSV in patients with varicose veins has been the gold treatment standard for many years as it eliminates reflux, which is considered as a cause of the disease.

In the last decade, a new concept describing varicose veins development, has been actively discussed. It suggests that at least in many cases, a first step of the disease is not the reflux in great or small saphenous veins, but var-

icose transformation of its side branches. Dilatation of the tributaries leads to a reflux development in the saphenous trunk. Accordingly to this view, reflux has to be considered as a secondary phenomenon and therefore may disappear after the elimination of the causative factor. The disappearance of GSV reflux in majority of the limbs operated by isolated phlebectomy was demonstrated and confirmed in some studies [6, 7]. This approach was called ASVAL by its inventor P. Pittaluga.

The short-term and mid-term results have shown that treatment by ASVAL can lead to regression or elimination of GSV reflux with no recurrence of varicose veins in many patients [5, 8, 9]. But vascular specialists still keep skepticism about this approach due to its significant contradiction to standard approaches and the lack of supporting data, including long-term results.

The objective of our study was to assess recurrence rates of VVs and GSV reflux at 1, 2, 3, 4 and 5 years after ASVAL procedure.

**Corresponding author:** Mirakhmedova S.A. — e-mail: [kelly.gellespy@gmail.com](mailto:kelly.gellespy@gmail.com)

\*Student of Faculty of Fundamental Medicine, Lomonosov Moscow State University