

## INTRODUCTION

Hippocrates observed the association between varicosities and leg ulceration more than 2000 years ago (*Adams, 1849*). Egyptian papyrus scroll have been found to contain instructions for the treatment of leg disorders (*Schneider, 1965*).

In 1882 *D. Zollikofer* of St. Gallen, Switzerland, reported on the injection of an acid into a vein to create a thrombus (*Kwaan et al., 1976*). This was the first attempt at "Sclerotherapy" a term derived from the Greek word for "hard".

The foundation of modern sclerotherapy treatment of varicose veins began in 1916 when *Linser* reported many successful treatments using perchloride of mercury with an intravascular technique.

Sclerotherapy refers to the procedure in which a sterile solution is injected into the lumen of a vein for the purpose of producing irreversible full thickness mural denaturation. If the entire vein wall (endothelial cells, tunica intima, tunica media and tunica adventitia) is irreversibly altered, mural repair and subsequent recanalization can not occur and the vessel will be resorbed. This procedure when performed on telangiectasias is referred to as microsclerotherapy (*Green, 1993*).

The term telangiectasias was first coined in 1807 by *Von Graf* to describe a superficial vessel of the skin visible to the human eye. Individually the vessels measure 0.1 to 1mm in diameter and represent an expanded venule, a capillary or an arteriole (*Kosinskic, 1926*).

The first pharmaceutical manufactured sclerosing solution was a mixture of saline and procaine. Thereafter, multiple solutions were produced by the German pharmaceutical industry. This stimulated

research on both sides of the Atlantic for an ideal sclerosing solution and compounds were tried (*Schneider, 1965*).

Postsclerosis compression initially described by *Brunstein (1941)*, *Orbach (1950)*, *Sigg (1952)* and *Fegan (1963)* is perhaps the most important advances in sclerotherapy treatment of varicose veins since the introduction of relatively safe synthetic sclerosing agents in 1940s. With the advent of compression sclerotherapy, clinical experience equal to surgical procedures are now reported (*Leu, A. J et al., 1993*)

In Europe sclerotherapy has been fully accepted by the medical community since the 1960s and exists as a separate speciality (*phlebology and/or angiology*) (*Widmer, 1991*).

Varicose veins and telangiectasias of lower limbs should be thought of as one clinical manifestation of venous hypertension, when venous hypertension results in a sequence of cutaneous complications: oedema, cutaneous pigmentation, venous/stasis dermatitis, atrophie blanche, cutaneous ulceration and malignant degeneration. Varicose veins alone may also be complicated by hemorrhage, thrombophlebitis and pain (*Hobbs, 1973*). The primary therapeutic procedure for all stasis complications, except malignant degeneration is to normalize the underlying pathology. This pathology that gives rise to cuticular venous hypertension, increased interstitial fluid and resultant decreased oxygenation and defective nutrition of the skin. Ideally, treatment is directed first to correcting cuticular venous hypertension. This may be accomplished through approaching the superficial or deep venous system or their conduits (*Negus and Friedgood, 1983*).

Studies have demonstrated that sclerotherapy treatment of incompetent perforating veins increases the efficacy of calf muscle

pump, resulting in an improved clearance of extravascular fluid (*Leu et al., 1993*).

A significant percentage of patients with chronic venous insufficiency who have superficial venous system alone or in combination with deep venous system abnormalities, show greater improvement with sclerotherapy (*Weissberg, 1980*).

Failure of sclerotherapy is not related to the inadequacies of the basic concept but rather to imperfect application. It has the great advantages of not requiring anaesthesia or hospitalization and avoiding potential operative complications. When correctly performed for the proper indications it gives, at least, as good a result as operation and in most instances will preserve the saphenous vein (*Green D., 1998*).

Objections to Sclerotherapy from the fear of spread of uncontrolled thrombosis into the deep system were dispelled by Fegan's studies in which radio- opaque dye was mixed with the sclerosing solution, showing that it did not appear in any quantity within the deep system. The incidence of deep vein thrombosis in these carefully monitored patients was extra- ordinarily low (*Fegan, 1966*).