CHRONIC VENOUS LEG ULCERS

ESSAY
SUBMITTED FOR PARTIAL FULFILMENT OF
MASTER DEGREE IN
GENERAL SURGERY

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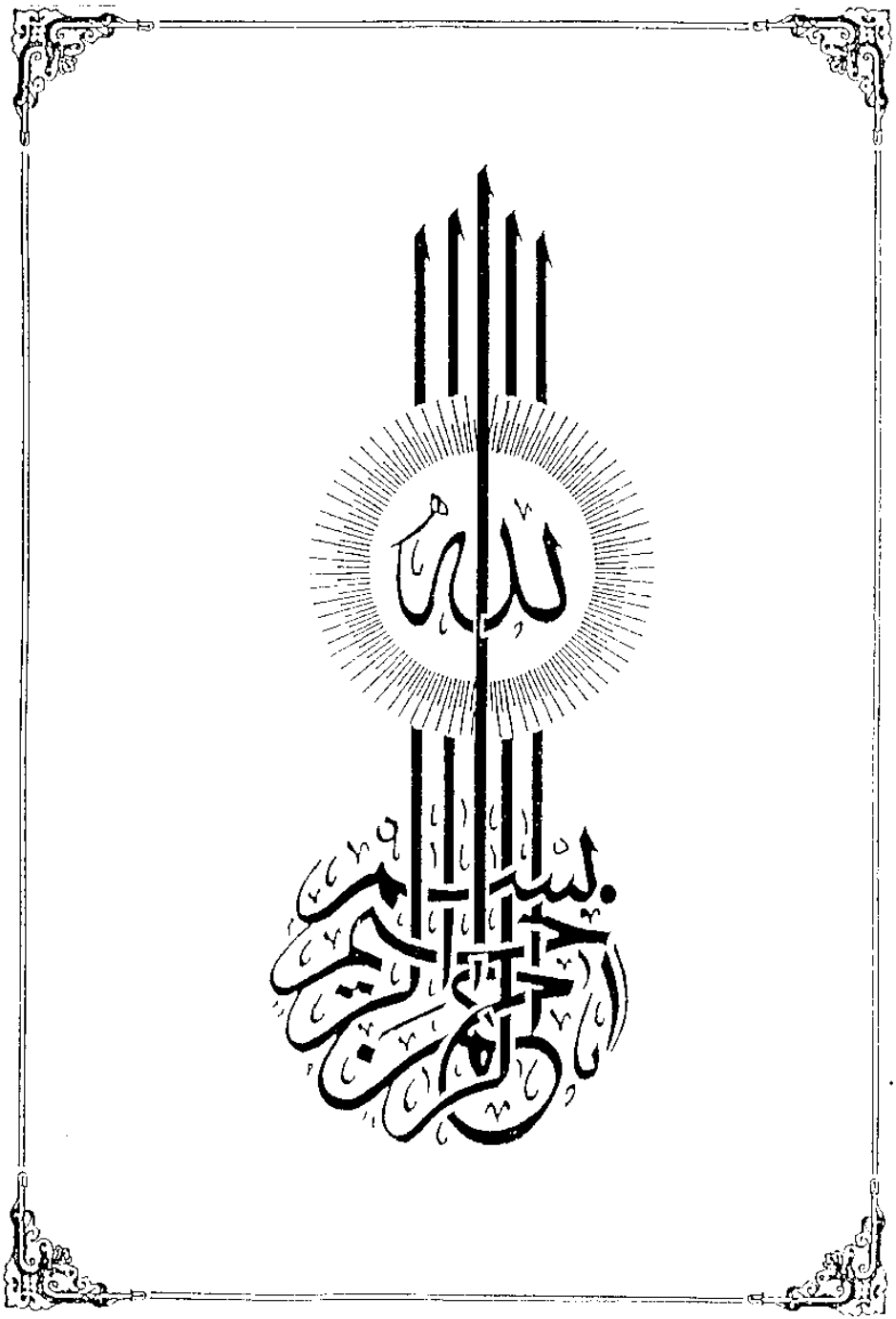
1983

ACKNOWLEDGEMENT



ACKNOWLEDGEMENT

I am very much priviledged and honoured to have Professor Dr. ***Nabil El-Mehairy*** *Supervise this work. I am grateful to him for his kind supervision, continuous guideness and valuable advises, without which, this essay would have not been delivered in this form.*

My deep thanks and gratitude extended to Dr. ***Madbouly Imam,*** *Lecturer of general surgery, who devoted to me very much time and effort and I sincerely thank him for his kind cooperation and advise during the production of this essay.*

Thanks to all ***Seniors*** *and* ***Colleagues*** *who encouraged me by kind words.*

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Introduction

INTRODUCTION

One of the most serious and common sequelae of both deep thrombophlebitis and primary varicosities is ulceration of the skin.

It has a definite economic implications, since once it has developed it frequently renders the patient a semi-invalid, incapable of working for weeks and even months. Of great importance in this regard is the fact that the condition is notorious for recurrences. (Abramson; D.I. 1974).

Chronic dermatitis and ulceration resulting from venous stasis have caused human suffering for centuries. The failure of surgeons to successfully assist these patients is primarily attributable to a lack of understanding of the pathophysiology of the stasis changes. (Field, P. et al., 1971).

Chronic venous insufficiency accounts for approximately 10 percent of admissions to large general hospitals, and much time has been lost from work and large sums of money have been spent every year for treatment. (Roenigk and Young, 1975).

Venous ulcers have been recognised since the time of Hippocrates (Anning, 1952). (Wiseman, 1676), seems to have been the first to consider that these ulcers might be due to a circulatory defect. In the nineteenth century, the emphasis was placed on varicose veins as a cause of these ulcers and the term varicose ulcer was adopted (Hilton, 1861; Critchett, 1848... and others).

Gay (1867) pointed out that ulceration is not a direct consequence of varicosity, but of other conditions of the venous system of which varicosity is not infrequently a complication. He gave an accurate anatomical description of the ankle perforating veins, and the term venous ulcer was first introduced by him. Homans (1917) showed that thrombus recanalisation with destruction of the valves was probably very common after deep venous thrombosis, and that ulcers of the leg followed and were closely related to this deep venous pathology.

The introduction of venography by Dos Santos (1938), added a great deal to our knowledge of the normal physiology of venous return from the leg, and the effects of thrombotic disease on this.

Finally, a re-study of the anatomy of the veins of the leg, particularly the anatomy to the direct ankle perforating veins.

Review of Literature

SURGICAL ANATOMY OF THE VEINS OF THE LOWER LIMB

The anatomy of the venous system is subjected to individual variations, in contrast to that of the arterial system, which is relatively constant.

The peripheral veins of the lower limb will be considered under the following headings :

1. The superficial veins.
2. The deep veins :
   a. intra - muscular veins.
   b. inter - muscular veins.
3. The perforating veins which connect (1) & (2).
4. The valves of these veins.

(1) The superficial veins :

The superficial veins lie in the subcutaneous fat in three strata :

a. Subcuticular venules forming a plexus and become visible in varicosities.

b. Subcutaneous veins of moderate size which form most of the prominant superficial varices following incompetence of the main trunks.

c. The main trunks of the long and short saphenous veins which lie on the deep fascia.

Drainage of blood from each toe is by two dorsal and two planter digital veins. The dorsal digital veins join in the toe clefts to form the dorsal metatarsal veins, which unite to form a dorsal venous arch, which is linked with medial and lateral marginal veins. The medial part of the dorsal venous arch is continued upwards as the long Saphenous vein, while the lateral marginal vein communicates with the short saphenous vein.

The planter digital veins form the four deep metatarsal veins, which unite to form the deep planter venous arch. The planter digital veins communicates with the superficial veins of the sole to form a planter subcutancous venous arch. The dorsal, planter,digital and metatarsal veins communicate with each other freely.

The numerous perforating veins of the foot are valved in such a way that most venous drainage from the dorsum of the foot passes to the long and short saphenous veins at the ankle, and from the planter surface to the posterior tibial vein. (Dodd & Cockett, 1976).

The long saphenous vein :

The long saphenous vein is the longest vein in the body. It is formed by the union of veins from the inner part of the foot and the medial marginal vein and runs upwards for 1-1.5 inches in front of the medial malleolus lying in the groove between its anterior border and the tendon of tibialis anterior.

It extends obliquely backwards over the subcutaneous medial surface of the lower fourth of the tibia and then along its medial border to the medial condyle of the femur, and over the posteromedial aspect of the knee. Then it climbs slightly forwards upon the anteromedial aspect of the thigh and into the foramen ovale to join the common femoral vein. The saphenofemoral junction lies 1-1.25 inches below and lateral to the pubic tubercle.

The long saphenous vein is occasionally doublicated from the knee to the groin, and this can render it useless as an arterial graft and also result in inadequate stripping of incompetent main channels. In the lower two thirds of the leg and the upper two thirds of the thigh, the long saphenous vein lies on and closely applied to the deep fascia, while as it crosses the knee it becomes more superficial (Dodd & Cockett, 1976).

Tributaries and communication of the long saphenous vein :

(1) In the leg :

a. A constant small connection between it and the upper of the three medial ankle perforators. (Fig. 1, 4)

b. One or two tributaries from the anterior aspect of the the leg joining it in its lower third (Fig. 1,8).

c. Occasionally there is a small connection with the posterior arch vein (Fig. 1, 6).

d. A free anastomosis between tributaries of the short saphenous vein and the posterior arch vein, and hence the long saphenous vein, by a vein running behind the tendo-Achillis (Fig. 1, 7).

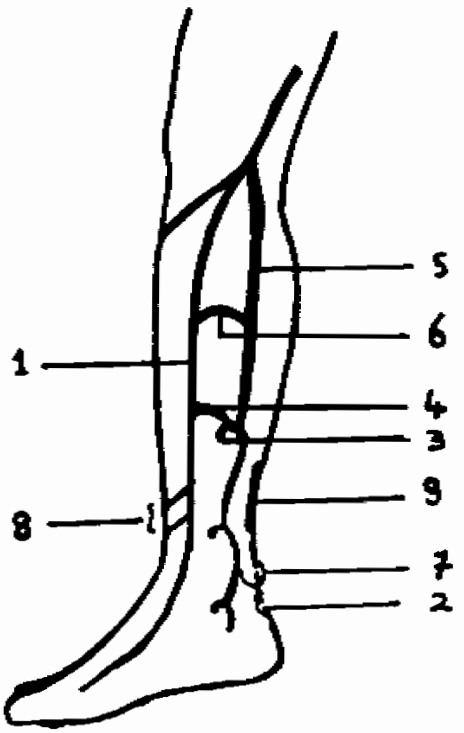

Fig. (1)

Tributaries of the Long Saphenous Vein Below the Knee.

1. Long saphenous vein
2. Tendo-Achillis
3. Upper medial ankle perforator
4. Connection between (1) & (2)
5. Posterior arch vein
6. Connection between (1) & (5)
7. Connection vetween posterior arch vein and short saphenous vein.
8. Branches from the anterior aspect of the leg.
9. Short saphenous vein.