

VARİS HASTALARINDA TOTAL STRİPPİNG SONRASI SAFEN SİNİR HASARININ İNCELENMESİ

Assessment Of Saphenous Nerve Damage After Total Stripping In Patients With Varices

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ÖZET

Amaç: Uzun safen veni total sıyırma (stripping) işlemi sırasında oluşan safen sinir hasarı istenmeyen bir komplikasyondur ve total stripping sonrası belirli oranlarda meydana gelmektedir. Bu çalışmamızda total stripping yaptığımız varis hastalarındaki safen sinir hasarı sıklığı araştırıldı.

Çalışma Planı: 20 (12 erkek, 8 kadın; ortalama yaş 38.4 ; yaş dağılımı 29-48) hastaya total stripping uygulandı. Tüm hastalar operasyon öncesi alt ekstremitte venöz renkli doppler ultrasonografi (USG) ile değerlendirildi. Total stripping öncesi tüm hastalara yüksek ligasyon uygulandı. Gerekli olan hastalara ek olarak çeşitli sayılarda pake eksizyonu yapıldı. Bütün hastalar ameliyattan 48-72 saat sonra taburcu edildi. Ameliyattan sonra tüm hastalara erken dönemde elastik bandaj ve sonrasında en az 6 ay olmak üzere düzenli orta basınçlı varis çorabı kullanıldı. Ameliyattan 1 ay sonra tüm hastalar basit nöroloji testlerle değerlendirildi.

Bulgular: Total stripping işleminden sonra yapılan incelemede çıkarılan 4 adet safen veninde safen sinir dokusuna rastlanıldı. Ameliyat sonrası yapılan nörolojik testlerde 6 ekstremitede (% 30) safen sinir hasarına rastlandı. Hiçbir hastada hematoma, femoral arter yaralanması, derin ven trombozu, enfeksiyon veya pulmoner emboliye rastlanmadı.

Sonuç: Total stripping işleminin postoperatif dönemde hastalar tarafından çok fazla geri bildirim verilmemesine rağmen safen sinir hasar oranının beklenenin üstünde olduğu düşünüldü.

Anahtar kelimeler: *Periferik Sinir Yaralanmaları, Varis Cerrahisi, Total Stripping.*

ABSTRACT

Objective: Saphenous nerve damage is a complication of total stripping procedure carried out on long saphenous vein and occurs with definite frequencies following total stripping. We evaluated the saphenous nerve damage frequency in patients with varices, who underwent total stripping.

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Materials and Methods: Total stripping was carried out in 20 patients (12 males and 8 females; mean age 38,4; age ranged between 29 and 48 years). All patients were evaluated with lower extremity venous Doppler ultrasonography, preoperatively. Before total stripping, high ligation was performed. In selected patients, several packs of varicose veins were also resected. All patients were discharged in 48-72 hours after the operation. For in the early postoperative period, all patients used elastic bandages and medium pressurized varis socks for at least 6 months. In the first month after the operation, all patients were evaluated with basic neurological tests.

Result: After the total stripping procedure, saphenous nerve tissue was detected in four vein specimens. However, postoperative neurologic examination revealed saphenous nerve damage on six extremities (30%). Hematoma, femoral artery damage, deep vein thrombosis, infection or pulmonary thromboembolism did not occur in any of patients.

Conclusion: : In the postoperative period of total stripping procedure, the rate of saphenous nerve damage is thought to be greater than anticipated despite inadequate feedback from the patients.

Key words: *Peripheral Nerve Injuries , Varicose Vein Surgery, Total Stripping*

INTRODUCTION

Varicose veins are seen %0.5-3 of North America and European society (1). Surgery of varices is utmost surgical intervention in the world. It has been applied since the beginning of surgery. Most of varices are caused by venous insufficiency and both from cosmetic reason and from complications they lower the quality of life. Reflux of vena saphena magna and vena saphena parva and perforator vein insufficiency is the main causes of varices. Generally high ligation accompanied with total stripping and packs excision are most common surgical procedure in treatment. It is noted that saphenous nerve injury after stripping is % 7-40 worldwide (2).

Before surgery patients must be informed about complications of the procedure. Sometimes medicolegal cases for sensory deficiency can be faced(3). In this study we aimed to search saphenous nerve injury the most disturbing complication of total stripping.

PATIENTS AND METHODS

20 patients had undergone vena saphena magna(VSM) total stripping between December 2009 and December 2010 in two different clinics. 12 were male 8 female, mean age was 38.4 years. Preoperative venous Doppler ultrasonography (US) showed no deep venous insufficiency. There was no venous ulceration in any patient. In all patients there were mild to moderate sized venous packs. Reusable strippers were used for stripping and the process is done from groin towards ankle. We explored whether nerve tissue was found in saphenous veins that were stripped. Compression for bleeding control was administered. Elastic bandages for 24 hours were used followed by varix socks for 6 months. All patients were discharged after 48-72 hours.

1 month after operation simple neurologic tests such as touching, vibration were used to evaluate saphenous nerve damage.

RESULTS

In 4 of the specimens, saphenous nerve tissue was found.

Deep vein thrombosis, femoral arterial injury, recurrent vein, hematomas, and pulmonary thromboembolism were not seen. In one diabetic patient skin necrosis occurred and is cured with skin grafting. In the first month after operation we found out sensory deficit in 6 patients by simple neurologic tests, attributed to saphenous nerve injury. Operation sites were; 11 with right lower extremity, 9 with left lower extremity and none had bilateral. Postoperative complications were: infection (1, %5), pain at discharge (7, %35), paresthesia along the saphenous nerve tract after first month (6, %30). CEAP (clinical-etiological-anatomic-pathophysiological) classification for venous disease was as follows: C 2 (9, %45), C 2-3 (7, %35) and C 2-4 (4, %20). Pathologic venous reflux and surgical procedure results are presented in tables 1 and 2.

Table 1 : Pathologic venous reflux

Superficial	14 (%70)
Superficial and above knee perforator	4 (%20)
Superficial and below knee perforator	2 (%10)

Table 2 : Surgical procedure

VSM Stripping + SFJ Ligation + Packs Excision	10 (%50)
VSM Stripping + SFJ Ligation	7 (%35)
VSM Stripping + SFJ Ligation + open subfacial incompetent perforator ligation	3 (%15)

VSM: Vena Saphena Magna

SFJ: Saphena Femoral Junction

DISCUSSION

In varicose vein surgery there are 3 main purposes which are totally removal of varicose veins, prevention of cosmetic problems and not to cause any complication. Saphenous venous system is the

main site of varices. Saphenofemoral junctional reflux and reflux in vena saphena magna is found more than %80 of varicose veins (4). Main complications of varicosectomy are hematoma, femoral arterial injury, deep venous thrombosis, saphenous nerve damage and pulmonary embolism (5). Saphenous nerve damage is a possible complication of total stripping. The cause of it is that saphenous vein lies adjacent to saphenous nerve below knee. So dissection near ankle or knee may injure the nerve.

In our study, the rate of the saphenous nerve damage was %30 consistent with the previous studies (7). The symptoms can be classified as burning sensation, numbness at the inner site of thigh. In %30 of our patients by objective tests we found sensorial defects.

Although it's known that symptoms are temporary in two patients (%10) after one year symptoms still remained. Saphenous nerve is known to be a sensorial branch of femoral nerve and innervate the medial part of the leg. Below knee it is adjacent to saphenous vein. It is reported that incidence of saphenous nerve injury is diminished in case of stripping from groin toward ankle (8).

Partial stripping described as extraction of saphenous vein 4 cm below the tibial tuberculum has more recurrence rate but less saphenous nerve damage (3). There are reports that saphenous nerve damage is about % 5-7 in partial stripping (9).

Morrison and Dalsing used olive for below and for above knee for reducing saphenous nerve damage (5). Holme at al. compared the total and partial stripping and found clinical improvement similar but noted significantly lower rate of nerve damage (6).

Generally in every vein surgery packs excision is needed. In two cases who had nerve injury there were too many packs of veins, so we think some of nerve damages may occur while excision of packs are done.

As a conclusion before surgery we offer routine venous doppler ultrasonography for superficial, deep, perforator system. It's advised to remove all pathologic structures for not to face recurrence (10).

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