ASK TWICE FOR RAYNAUD'S DISEASE BEFORE HAND SURGERY

EL CERRAHİSİ ÖNCESİ RAYNAUD HASTALIĞINI İKİ KEZ SORGULAYINIZ

*Kemal Fındıkçıoğlu, **Fulya Fındıkçıoğlu

*Gazi Üniversitesi Tıp Fakültesi Plastik Rekonstrüktif ve Estetik Cerrahi Anabilim Dalı, Ankara
** TDV Özel 29 Mayıs Hastanesi Plastik Cerrahi Kliniği, Ankara

ABSTRACT

Syndactyly repair rarely end up with a severe ischemia complication. Meticulous dissection of the vascular pedicles and avoiding tight skin closure are the key points of preventing the complication.

We represent here a case with ischemia complication after syndactyly repair on the postoperative second day. The suspected reason of this late ischemia complication is Raynaud's disease.

By the help of the case, hand surgery is discussed as a trigger cause of Raynaud's disease ischemic attack. Also the possibility of overlap ischemic effect of the disease and hand surgery is discussed.

Keywords: Raynaud's disease, syndactyly, hand surgery, complication, ischemia

ÖZET

Sindaktili onarımı sonrası nadir de olsa iskemi komplikasyonu ile karşılaşılabilir. Komplikasyonu önlenmesi için en bilinen önlemler hassas pedikül disseksiyonu ve gevşek cilt kapamadır.

Olgu sunumunda sindaktili onarımı sonrası ikinci günde izlenen iskemi komplikasyonu ve olası neden olarak görülen Raynaud hastalığı tartışıldı.

El cerrahisinin Raynaud hastalığı iskemik ataklarını tetikleyebileceği, belki de üst üste binen iskemik etki oluşturabileceği vaka yardımı ile hatırlatılıp, tartışıldı.

Anahtar Kelimeler: Raynaud hastalığı, sindaktili, el cerrahisi, komplikasyon, iskemi

INTRODUCTION

Syndactyly is one of the more common congenital malformations of the limbs. It can occur as part of a syndrome or as a sporadic event.[1,2] Despite the long history of surgical treatment in syndactyly repair, further surgical techniques minimize but not completely overcome all postoperative complications. The most severe but rare complication of the surgical treatment is ischemia of the fingers.[3] We present a case of syndactyly with postoperative ischemia complication that the suspected reason is overlooked Raynaud's disease.

CASE REPORT

A 19-year-old male admitted to our clinic for the treatment of syndactyly which was on the 3th web space of his left hand. X-rays demonstrated no bony union so the condition was diagnosed as complete simple syndactyly. The patient mentioned no significant point about his personal and family medical history.

The surgical division of the fingers was accomplished by Z-plasty incisions. Web space was reconstructed with a dorsal skin flap and interdigitating skin flaps were used for resurfacing other defects. Full-thickness skin grafts which were harvested from hairless skin of the upper arm were applied to the areas that remain. These grafts helped to avoid tight skin closure. No defatting was performed for not to damage the blood circulation of the fingers. Neurovascular pedicles were seen and protected under loupe magnification (2.5x). Meticulous dissection and hemostasis was applied under tourniquet. A loose-molded dressing and short arm plaster splint was applied after surgery.

The patient was discharged from the hospital the day after the surgery. There was no evidence of circulation problem at that time. Patient applied with the complaint of an increasing pain at postoperative 2nd day. Loss of capillary circulation was observed. All the dressings were removed. Some of the stitches were taken out. Intravenous administration of low molecular dextran and pentoxifylline was continued to reorganize circulation for three days (Figure 1). The patient was followed up closely for four weeks with non-adhesive dressing. No other surgical intervention was applied except minor debridement for superficial sloughing. Minor skin loss was healed by secondary intention. Short arm splint is kept in place for 2 weeks and continued as a night splint for 2 months to prevent contractures (Figure 2). By the help of this complication, the patient re-

Geliş Tarihi :03.12.2011
Kabul Tarihi 02.06.2012

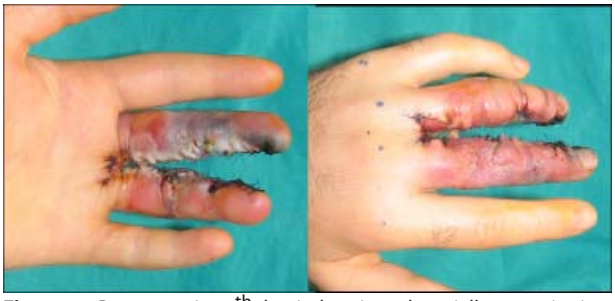

Figure 1. Postoperative 5th day, ischemic and partially necrotic view of the both fingers

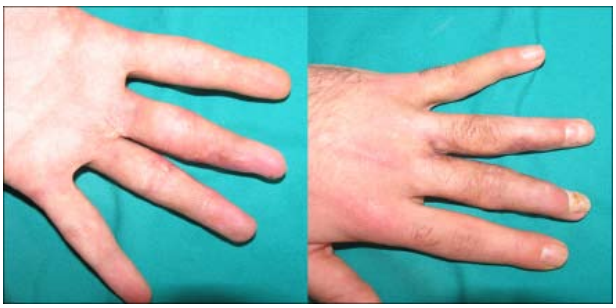

Figure 2. Postoperative 2nd month. No secondary surgical intervention was applied

membered his previous vasospastic attacks which had been diagnosed as Raynaud's disease. He hadn't had any attack since he was fifteen years-old. Because we are not so familiar with the disease, we consulted him to a rheumatologist and hematologist for differential diagnosis. No other rheumatological, hematological or vascular predisposing factor could be revealed by the help of consultations and laboratory tests. The condition again diagnosed as Raynaud's disease.

DISCUSSION

Early syndactyly release is recommended by most of the authors, to prevent malrotation and angulation deformities which develop due to differential growth rates of the involved fingers. Because 3th and 4th fingers have similar growth rates, delayed release of central rays may be acceptable.[1,2]

The technical details of the surgery are based on the complexity and location of the deformity. Many techniques have been devised for simple syndactyly release. However the key point of the surgery is a precise design for the local flaps to minimize the necessity for skin grafts.1,2 Despite some rare "graftless" surgical techniques,[4-7] full-thickness skin grafts are required for most of the complete syndactyly cases to prevent ischemic conditions and contractures. Although rare, finger ischemia can occur if digital vessels are damaged or tourniquet effect was formed by over-tight skin repair.[3] A loop magnification and a tourniquet are crucial to perform a secure dissection. Also only one side of the finger should be operated on during initial operation for not to damage both neurovascular structures accidentally. Defatting of the interdigital space should be avoided if not necessary. All these precautions were put into practice in the operation of our case.

Obtaining a thorough personal and family medical history is necessary to diagnose hypercoagulability and vasospastic conditions. The patient with Raynaud's disease may have rare attacks that he can forget to talk about the condition during the initial examination as our patient has done. Vascular and hematological disorders have to be asked insistently before the surgery.

Raynaud's disease is a rare vasospastic disorder of the blood vessels, usually in the fingers and toes. Ischemic attacks may cause distal or total finger necrosis in severe cases. Cold weather, stress and some medicines can trigger attacks.[8,9] Despite it hasn't been mentioned in the literature before, hand surgery may also trigger the attack via operational stress or additional vasospasm as we were confronted with in our case. Also the possibility of overlap ischemic effect of the disease and hand surgery has to be kept in mind. The patient has to be informed about the probable increased ischemia complication rates.

Acknowledgements

We wish to acknowledge the contribution of rheumatology specialist Dr. Sema Yilmaz for her guidance in the management of Raynaud's disease.

Dr. Kemal FINDIKÇIOĞLU
Gazi Üniversitesi Tıp Fakültesi
Plastik Rekonstrüktif ve Estetik Cerrahi Anabilim Dalı, ANKARA
E-posta: kemaldoctor@yahoo.com

REFERENCES

1. Upton J. Classification and pathologic anatomy of limb anomalies. Clin Plast Surg 1991;18:321–56.
2. Tonkin MA. Failure of differentiation part I: Syndactyly. Hand Clin 2009;25:171-93.
3. Dobyns J. Problems and complications in the management of upper limb anomalies. Hand Clin 1986;2:373–81.
4. Ekerot L. Syndactyly correction without skin-grafting. J Hand Surg [Br] 1996;21B:330-7.
5. Vickers D, Donnelly W. Corrective surgery of syndactyly without the use of skin grafts. Hand Surg 1996;1:203–9.
6. Cetik O, Ozsar BK, Eksioglu F, Uslu M, Cetik G. Contrary intermittent skin release of complete syndactyly without skin graft in adults. Ann Plast Surg 2005;55:359-62.
7. Sherif M. V-Y dorsal metacarpal flap: a new technique for the correction of syndactyly without skin graft. Plast Reconstr Surg 1998;101:1861–6.
8. Wigley FM, Flavahan NA. Raynaud's phenomenon. Rheum Dis Clin North Am 1996;22:765-81.
9. Cooke JP, Marshall JM. Mechanisms of Raynaud's disease. Vasc Med 2005;10:293-307.