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Case Report
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Replantation of scalp avulsion following a go-kart accident: a case report

Go-kart kazası sonucu replantasyonu yapılan skalp avülsiyonu: Olgu sunumu

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With the development of microsurgery, successfully replanted cases of scalp avulsions have been reported. In spite of previous publications of replantations based on a single artery and vein, it is now accepted that multiple anastomoses increase the success rate. We present herein the case of a successfully replanted avulsion in a child who caught her hair in a go-kart motor belt, and we discuss the mechanism of injury and number of anastomoses.

Key Words: Replantation; scalp.

Mikrocerrahinin günümüzde gelişmesiyle birlikte değişik mekanizmalarla oluşan ve başarılı bir şekilde replante edilen skalp avülzyon olgularına rastlamaktayız. Daha önceki yayınlarda tek arter ve ven ile başarılı bir sonuç alınabileceği belirtilmiş olsa da, günümüzde birden çok arter ve ven anastomozunun başarıyı arttırdığı bilinmektedir. Bu görüşten yola çıkarak, mekanizma ve anastomoz sayısı açısından değerlendirdiğimizde go-kart motor kayışına kaptırma sonucu meydana gelmiş ilginç bir olgu örneği sunuldu.

Anahtar Sözcükler: Replantasyon; skalp.

Although scalp avulsion cases are not commonly encountered, scalp avulsion is important in microsurgery practice. Due to the lack of cases, it is not easy to find large series in the literature.[1] However, interesting cases of avulsions have been reported in the literature previously.[2] In terms of a different mechanism of action, we present herein the case of a successfully replanted avulsion in a nine-year-old girl who caught her hair in a go-kart motor belt.

CASE REPORT

A nine-year-old girl was admitted to the emergency department because of a scalp avulsion following a go-kart racing car accident. On examination, 90% of the scalp was avulsed totally (Fig. 1a). The amputated scalp was damaged centrally in addition to peripheral avulsions (Fig. 1b, c). Following stabilization in the emergency department, the girl was taken to the operating room for replantation after a four-hour cold ischemia period. Bilateral temporal and left occipital arteries were anastomosed. For venous drainage, bilateral temporal veins plus bilateral supratrochlear veins were used. Vein grafts were not used during repair. Three weeks postoperatively, excluding a small area on the left occipital region, replantation was determined successful (Figs. 1d-ı).

DISCUSSION

Before the development of microsurgery, scalp avulsions were treated as composite grafts, the results of which were not very satisfactory.[3] In 1974, Miller et al.[4] accomplished the first microsurgical replantation of a scalp avulsion. Since early times, various cases of replantations were published, mainly as case reports. The widest series was published by Cheng et al.[5] in 1996, which was composed of 20 cases.[5]

Due to good vasculature and collateral supply of the scalp, many have advocated the adequacy of single

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Fig. 1. **(a, b)** Near total amputation of the scalp. **(c)** Central and peripheral avulsed amputate. **(d, e)** Post-operative 3rd-week view. Excluding a small area on the left occipital region, replantation was successful. **(f-ı)** Sixth-month views of the patient.

artery and vein anastomosis.[5] However, many authors now think that multiple anastomoses can increase the overall success rate.[6] For instance, in a study performed by Cheng et al.,[5] more effective results were observed with multiple anastomoses together with vein grafts.

In this report, we present an interesting case of a scalp avulsion in a young girl following a go-kart injury. We preferred to make multiple anastomoses due to the globally avulsed amputate and obtained a very satisfactory result, which supports the fact that multiple anastomoses can increase the overall success rate.

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