

## Use of Cortical Screws for Soft Tissue Fixation

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### Abstract

Use of cortical screws for bony fixation is a well known phenomenon but use of same screws for soft tissue fixation is a new concept. A case of necrotising fasciitis of scalp was treated with repeated debridement and local flaps. In this case we had no difficulty in covering the wound as flaps were preoperatively planned but inset of tough oedematous flaps was difficult, hence we used cortical screws for fixation and they served the purpose well.

**Keywords:** Cortical screws; scalp reconstruction, rotation flaps; screws.

### Introduction

Scalp reconstruction is challenging due to its tough layers and inelasticity of the skin.

How ever due to its high vascularity and definite axial vessels, planning a flap is not difficult. We had a situation where elevation of flap and planning was not difficult but inset of the flap was challenging. Hence we used cortical screw for inset of scalp flaps and they served the purpose very well.

### Case

A 55yr old diabetic female visited the outpatient department for a swelling with redness over right temporo-parietal region. She was treated on out patient basis and patient did not visit the hospital for next 5 days. On 6<sup>th</sup> day patient was admitted under accident and emergency department with complaints of right half of face swelling, pain, fever. On examination there was necrotic patch over parietal region, tachycardia, tachypnea and swelling in the right lateral cheek wall. Patient was diagnosed

facial cellulitis in sepsis, probably due to parietal region abscess was done. Immediate debridement of parietal region was done to remove the dead and necrotic tissue and further incision given to expose the infected fascia (probably loose areolar tissue and galea. (Fig. 1) Thorough wash was given. Incision over the scalp given in such way that elevated flaps covered the exposed bone. Incision extended to parotid region as well. After repeated debridement, a patch of 4 X 7cms skull bone was exposed. Reconstruction was easier, as flaps were planned preoperatively. Besides the exposed bone, the raw area granulated well and it was planned for cover with skin graft. The real problem was inset of the flaps, as there was no tissue to suture the flaps (Fig. 2) and also because of convexity of cranium and thick oedematous flaps to hold the flap in place was difficult.

### Technique

As discussed thick flaps, convexity of the skull and friable surrounding tissue all made inset of flap challenging. 2 mm X 8 mm titanium (Fig.3) screws were used to inset at the desired position over the exposed bone. As the flaps were thick and oedematous about 5 mm of screw spanned the flap and rest 3 mm spanned outer-table of skull bone. 3 screws were used to fix the flap. Postoperatively patient had no complications. Flaps stuck to the bone firmly and screws were removed after three weeks. (Fig.4)

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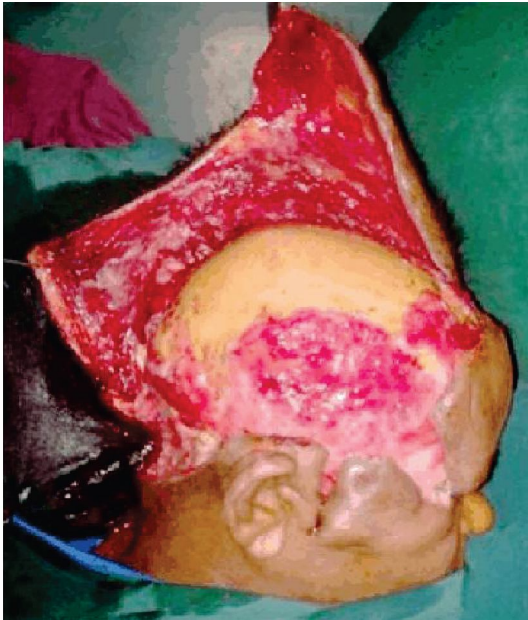
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## Discussion

The use of cortical screws for fixation of flat bones is well known. But the concept of screws for inseting scalp flaps is new and we could not find the literature for the same in our search.

**Fig.1: Necrotising fasciitis of scalp after repeated debridement and skin flaps elevated**



**Fig. 3: Flaps inset using 2X8mm cortical screws**



**Fig. 2: Wound ready for cover with exposed skull bone and friable granulation**



**Fig. 4: Post op picture after wound healing**

