Scalp erosion

Scalp erosion in patients with deep brain stimulation (DBS) hardware is an uncommon complication that lacks a clearly defined management strategy. Previous studies have described various therapies including conservative treatment with antibiotics and surgical debridement with or without hardware removal.

OBJECTIVES: The aim of this study was to review the efficacy of a hardware-sparing management strategy for the treatment of scalp erosion.

METHODS: Five patients with previous DBS implantation presented with scalp erosion and visible hardware exposure at the calvarial burr hole site, and underwent tension-free, vascularized, rotational scalp flap, with preservation of the leads under the pericranium. Two of the procedures were performed after an unsuccessful attempt at primary closure and 3 as a primary procedure. Each patient was followed clinically for at least 14 months postoperatively to evaluate for wound-healing and adverse effects.

RESULTS: The median duration from initial DBS hardware implantation to erosion and revision surgery was 12 months (range 1.5-62 months). Three patients were documented to have positive intraoperative cultures in spite of the absence of purulence. At the last follow-up, all patients were noted to have complete wound-healing and no evidence of infection or erosion.

CONCLUSIONS: DBS scalp erosion can be managed by rotational scalp flap without hardware removal, even in cases where infection is identified [1)].

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Staudt MD, Pourtaheri N, Lakin GE, Soltanian HT, Miller JP. Surgical Management of Deep Brain Stimulator Scalp Erosion without Hardware Removal. Stereotact Funct Neurosurg. 2017 Dec 13;95(6):385-391. doi: 10.1159/000484323. [Epub ahead of print] PubMed PMID: 29232685.