Introduction

The bone anchored hearing aid (BAHA) is useful in treating hearing loss patients with a variety of problems including fixed conductive loss and unilateral sensorineural hearing loss. The hearing aid is mounted to a titanium implant abutment placed behind the ear. The loss is delivered to the cochlea. This hearing aid may be removed from the ear. Occasionally skin or scar overgrowth may cover the abutment. Not only does it allow patients to resume BAHA use, but it also may improve vibration conduction to the cochlea and obviate the need for scar revision.

Methods and Materials

A retrospective chart analysis was performed on all patients undergoing BAHA abutment implantation between January 2003 through December 2006. The surgical technique involves elevating an inferiorly based split thickness skin graft (STSG) or full thickness skin graft (FTSG) over the mastoid bone. The subcutaneous tissue is excised down to the periosteum. The skin is undermined around the border of the operative site (Figure 1). The border is sutured to the surrounding skin. Post-operative dressing consisted of a bolster or healing cap. The dressing was applied for 1 week. The BAHA was first placed on the abutment at 8 weeks. At presentation with skin overgrowth following excision, Clobetasol was used to reduce nearby soft tissue. The skin overgrowth was treated either with topical clobetasol or revision skin excision. The primary outcome measure is to determine the benefit of clobetasol in reducing skin/scar overgrowth such that a patient may adequately affix the BAHA to the abutment.

Abstract

Introduction: The bone-anchored hearing aid (BAHA) can treat hearing loss in a variety of clinical situations. This device converts sound energy into vibrations, which are delivered to the cochlea. Occasionally skin/scar overgrowth may cover the abutment. Not only does this overgrowth interfere with affixing the BAHA to the abutment, but it also may attenuate the conduction of vibrations to the cochlea. Surgical scar revision/excision has been used previously to treat this problem. Clobetasol, a steroid cream for the treatment of psoriasis, can reduce skin overgrowth. Objective: We reviewed our experience with skin overgrowth involving the abutment. Hypothesis: Clobetasol (0.05%) can reduce skin overgrowth so that BAHA patients may resume use. Methods: The authors conducted a retrospective analysis of patients having undergone BAHA abutment implantation from January 2003 through December 2006. Results: Eighty-eight patients (2 patients received bilateral BAHAs) were reviewed. Twenty of 90 sites (22%) developed overgrowth. Thirteen of 20 sites were treated with Clobetasol. The overgrowth resolved in 11 of 13 (85%) sites following treatment. Conclusion: Clobetasol is an effective treatment for abutment skin/scar overgrowth. Not only does it allow patients to resume BAHA use, but it also may improve vibration conduction to the cochlea and obviate the need for scar revision.

Results

Eighty-eight patients (86 unilateral, 2 bilateral) underwent abutment implantation. Mean age was 42.5 years (range 3-85 years). Male/female ratio was 38/50. FTSG/STSG ratio was 26/64. The median onset of skin overgrowth was 8 weeks, ranging from 2 weeks to 19 weeks (Figure 3). Wound complications occurred in 25/90 (28%) implantation sites. Skin overgrowth was the most common complication occurring in 20/90 (22%) sites. This occurred in 2 of 26 FTSG sites versus 18 of 64 STSG sites. Incomplete skin graft survival occurred in 11 of 90 sites (12%), and skin overgrowth occurred in 7 of these patients. Clobetasol cream 0.05% was applied to 13 of 20 sites. The remaining 7 sites were treated with medical therapy. Clobetasol is approved for the treatment of psoriasis. This drug has been used in the treatment of BAHA abutment skin overgrowth. However, its efficacy is not clear.

Clobetasol is an effective treatment of bone anchored hearing aid abutment skin overgrowth. Reducing this overgrowth enables patients to resume use of the BAHA. It may also obviate the need for scar excision/revision as well as improve vibration conduction to the cochlea. Patient education regarding skin overgrowth can lead to early detection and treatment and minimize delay of BAHA use.

Bibliography