

Introduction

We present a single institution's experience with cranioplasty over the last fifteen years.

Methods

We performed a retrospective chart review. 130 patients from 1998 to 2013 underwent a total of 141 operations for cranioplasty. We looked at complication rates, specifically the incidence of infection and re-operation for evacuation of a fluid collection or hematoma. This was then compared to complications seen in the smaller cohort of patient-specific synthetic PEEK bone flaps.

Results

A total of 141 procedures were performed over this time period for reasons that could be grouped as follows: replacement of bone flap removed in an emergent procedure (45%), replacement of infected bone flap (17%), replacement after en bloc resection (21%); and partial cranioplasty to repair skull fractures or for cosmesis (17%). There were 15 infections (11%) post-operatively in the non-synthetic group. Three of these needed multiple surgeries for washout or revision, and the microbiology for all three was MRSA. 4% of the non-synthetic group needed surgical evacuation of a hematoma or fluid collection in the epidural space. A total of 8 patient specific synthetic flaps were used with the following complications: 2/8 had infections, 2/8 needed emergent evacuation of an epidural hematoma, and 2/8 had non-operative epidural hematomas seen on post-operative imaging.

Conclusions

There are various reasons for needing to perform a cranioplasty. Infection with MRSA portends an unfavorable course, and patient specific synthetic bone flaps have a higher percentage of complications when compared to other types of implants.

Learning Objectives

Review the indications for cranioplasty, the various methods used, and the potential complications; and compare to the newer, patient specific synthetic bone flaps that are now available.