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Cranial vault reconstruction using computer-designed polyetheretherketone (PEEK) implant: case report.

[Article in English, Spanish]

Chacón-Moya E1, Gallegos-Hernández JF, Piña-Cabrales S, Cohn-Zurita F, Goné-Fernández A.

Author information

Abstract

BACKGROUND:

Reconstruction of the bones of the skull is a complex procedure and represents a challenge for the surgical team. It is generally performed in patients who have loss of the cranial vault secondary to chronic infection or uncontrolled osteoradionecrosis, indicating a greater chance of failure or rejection of the materials used for repair of the defect. Selection of material to replace the cranial vault is complex due to the diversity of existing products. The ideal material is inert, lightweight, easy to fit and adaptable to the defect, offering the best aesthetic and functional results. Computer design of the implant makes this process easier by providing an implant specific to each individual patient and defect.

CLINICAL CASE:

We report the case of a patient who was diagnosed with esthesioneuroblastoma and was treated with anterior craniofacial resection and radiotherapy. Osteomyelitis and osteoradionecrosis were consequent complications with loss of the cranial vault in the frontal region. The defect was reconstructed with a polyetheretherketone (PEEK) computer-designed implant based on the defect evaluated by computed tomography. Results obtained are shown below.

CONCLUSIONS:

The PEEK computer-designed implant is a safe and easy to use alternative with great adaptability to cranial vault defects.

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