

Autologous stem cells (adipose) and fibrin glue used to treat widespread traumatic calvarial defects: Case report.

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Abstract:

This is a report of a 7-year-old girl suffering from widespread calvarial defects after severe head injury with multifragment calvarial fractures, decompressive craniectomy for refractory intracranial hypertension and replantation of cryopreserved skull fragments. Chronic infection resulted in an unstable skull with marked bony defects. Two years after the initial injury the calvarial defects were repaired. Due to the limited amount of autologous cancellous bone available from the iliac crest, autologous adipose derived stem cells were processed simultaneously and applied to the calvarial defects in a single operative procedure. The stem cells were kept in place using autologous fibrin glue. Mechanical fixation was achieved by two large, resorbable macroporous sheets acting as a soft tissue barrier at the same time. The postoperative course was uneventful and CT-scans showed new bone formation and near complete calvarial continuity three months after the reconstruction. © 2004 European Association for Cranio-Maxillofacial Surgery.