Sellar reconstruction with resorbable vicryl patches, gelatin foam, and fibrin glue in transsphenoidal surgery: A 10-year experience with 376 patients.

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Abstract:

Object. Closure of the sella turcica after transsphenoidal surgery is mainly accomplished with autologous muscle fascia and fat or muscle; this requires a second surgical incision. The authors review the results of using resorbable vicryl patches, gelatin foam, and fibrin glue for sellar reconstruction. Methods. A review was conducted of 376 consecutive patients who underwent surgery for pituitary adenomas, cysts, or subdiaphragmatic craniopharyngiomas in the sella turcica that the senior author (R.W.S.) had performed or directly supervised over the last 10 years. The sellar reconstruction was performed with a commercially available, synthetic absorbable patch composed of polyglactin 910/poly-p-dioxanone, gelatin foam, and fibrin glue. The patch is essentially resorbed in 2 to 3 months and replaced by fibrous collagen tissue. There were 117 small, 112 medium-sized, and 147 large lesions. The overall nonendocrine postoperative morbidity rate was 2.8%, and included visual deterioration, meningitis, secondary epistaxis, nasal septum complication, and cerebrospinal fluid (CSF) leakage. Two patients with macroadenomas needed reoperation for persistent CSF leakage, which comprised 0.5% of the whole series or 0.8% of the 259 patients with medium-sized or large lesions. There was no mortality and no morbidity related to the implanted material, and in particular no delayed empty sella syndrome. Conclusions. Closure of the sella turcica with a synthetic absorbable vicryl patch, gelatin foam, and fibrin glue after transsphenoidal surgery is safe and very effective in preventing postoperative CSF fistulas. The use of this technique obviates the need for a second surgical incision and shortens the operating time.

Because of the progressive resorption of the substitute material, the interpretation of postoperative magnetic resonance studies was not significantly hindered.