Hemicraniectomy in older patients with extensive middle-cerebral-artery stroke.

Abstract:

Early decompressive hemicraniectomy reduces mortality without increasing the risk of very severe disability among patients 60 years of age or younger with complete or subtotal space-occupying middle-cerebral-artery infarction. Its benefit in older patients is uncertain. We randomly assigned 112 patients 61 years of age or older (median, 70 years; range, 61 to 82) with malignant middle-cerebral-artery infarction to either conservative treatment in the intensive care unit (the control group) or hemicraniectomy (the hemicraniectomy group); assignments were made within 48 hours after the onset of symptoms. The primary end point was survival without severe
disability (defined by a score of 0 to 4 on the modified Rankin scale, which ranges from 0 [no symptoms] to 6 [death]) 6 months after randomization. Hemicraniectomy improved the primary outcome; the proportion of patients who survived without severe disability was 38% in the hemicraniectomy group, as compared with 18% in the control group (odds ratio, 2.91; 95% confidence interval, 1.06 to 7.49; P=0.04). This difference resulted from lower mortality in the surgery group (33% vs. 70%). No patients had a modified Rankin scale score of 0 to 2 (survival with no disability or slight disability); 7% of patients in the surgery group and 3% of patients in the control group had a score of 3 (moderate disability); 32% and 15%, respectively, had a score of 4 (moderately severe disability [requirement for assistance with most bodily needs]); and 28% and 13%, respectively, had a score of 5 (severe disability). Infections were more frequent in the hemicraniectomy group, and herniation was more frequent in the control group. Hemicraniectomy increased survival without severe disability among patients 61 years of age or older with a malignant middle-cerebral-artery infarction. The majority of survivors required assistance with most bodily needs. (Funded by the Deutsche Forschungsgemeinschaft; DESTINY II Current Controlled Trials number, ISRCTN21702227.)