Contralateral intracranial epidural hematoma

Patients requiring evacuation of traumatic ASDH via craniotomy/craniectomy with contralateral skull fracture were analyzed in two groups: those who developed Contralateral intracranial epidural hematoma postoperatively and those who did not.

Materials and methods: Retrospective analysis of severe traumatic brain injury admissions over 24 months (2017-2019) at a major trauma center. Pre- and post-operative CT scans were reviewed by a Consultant Neuroradiologist for initial fracture hematoma (FH) and specific contralateral skull fracture features (CLFF) comprising: complex petrous fracture, suture diastasis, and fractures involving foramen spinosum or middle meningeal groove (MMG).

35 patients had ASDH evacuation (age: 11-74); 7 with craniotomy, 28 with craniectomy. 9/35 developed CEDH of whom 7 underwent bilateral craniotomy/craniectomy. 8/9 with CEDH had FH, 6/26 of those without CEDH had FH. All patients with CEDH had CLFF. 6/9 had >1 CLFF. CLFF was identified in 9/26 patients without CEDH and only 3/26 non-CEDH had >1 CLFF. Analysis using univariate logistic regression identified statistically significant factors for the development of CEDH which were: younger age, Fracture hematomaon initial CT, increasing number of CLFF and MMG involvement alone. After multivariate analysis, only younger age and FH were significant.

Fracture hematoma and specific contralateral skull fracture features on CT enable the prediction of CEDH in patients undergoing evacuation of traumatic ASDH. These features raise a high index of suspicion for this complication and may expedite investigation and management for CEDH ¹⁾

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