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O-107 - NOVEL CT-BASED PARAMETERS ASSESSING RELATIVE CROSS-SECTIONAL AREA TO PREDICT SURGICAL MANAGEMENT AND CLINICAL OUTCOMES IN PATIENTS WITH ACUTE SUBDURAL HEMATOMA

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Resumen

Introduction: Acute subdural hematoma (ASDH) is one of the most devastating entities secondary to traumatic brain injury (TBI). Even though radiological computed tomography (CT) findings, such as hematoma thickness (HT), midline shift (MLS) and MLS/HT ratio, have an important prognostic role, they suffer from important drawbacks.

Objectives: We hypothesized that relative cross-sectional area (rCSA) of specific brain regions would provide valuable information about brain compression and swelling, thus being a key determining factor governing the clinical course.

Methods: We performed an 8-year retrospective analysis of patients with moderate to severe TBI with surgically evacuated, isolated, unilateral ASDH. We investigated the influence of ASDH rCSA, ipsilateral hemisphere rCSA, and the combined contribution of ASDH + ipsilateral hemisphere rCSA on the subsequent operative technique employed for ASDH evacuation and patient's clinical outcomes (early death and Glasgow Outcome Scale [GOS] at discharge and after one year follow-up). Different conventional radiological variables were also assessed.

Results: 39 patients were included. Lower HT, MLS, hematoma volume and ASDH rCSA showed a significant association with decompressive craniectomy (DC) procedure. Interestingly, higher ipsilateral hemisphere rCSA along the supratentorial region was an independent factor strongly associated with DC. CT segmentation analysis exhibited a modest relationship with clinical outcomes, which was limited to the basal supratentorial subregion.

Conclusions: rCSA is an objectifiable and reliable radiologic parameter available on admission CT that might provide valuable information to optimize surgical treatment, although it exhibited limited contribution to outcome prediction.