1991

1990-1992.

Guglielmi detachable coils in 1991.

Since its introduction in 1991, the Marshall computed tomography classification has become largely accepted for its descriptive and predictive value. For example, the IMPACT (International Mission on Prognosis and Analysis of Clinical Trials in Traumatic Brain Injury) prognostic model applies the Marshall CT score for 6-month outcome prediction in patients with moderate to severe TBI [1].

The Marshall computed tomography classification was, however, not designed for outcome prediction, and in 2005, Maas et al redesigned it for 6-month mortality prediction, resulting in the Rotterdam CT score [2].

Naidich TP. **MR Imaging of Brain Surface Anatomy. Neuroradiology. 1991;33(Suppl):S95–S99** [3] *** Provided early MRI-based cortical landmark guidance. *** Criticism**: lacks modern resolution, no quantitative method, outdated for current neurosurgical use.

1)
Steyerberg EW, Mushkudiani N, Perel P, et al. Predicting outcome after traumatic brain injury: development and international validation of prognostic scores based on admission characteristics. PLoS Med. 2008;5 (8):e165.
2)
Maas AI, Hukkelhoven CW, Marshall LF, Steyerberg EW. Prediction of outcome in traumatic brain injury with computed tomographic character- istics: a comparison between the computed tomographic classification and combinations of computed tomographic predictors. Neurosurgery. 2005;57 (6):1173-1182; discussion 1173-1182.
3)
Naidich TP. MR Imaging of Brain Surface Anatomy. Neuroradiology. 1991; 33:S95–S99