Radiological predictors of outcome in basilar artery stroke: THE BASILISK STUDY

L. Martínez Vicente ¹; S. Trillo ¹; C. Idoate; C. Aguirre ¹; C. Ramos ¹; Javier Villacieros-Álvarez ¹; E. Bárcena ²; J.L. Caniego ²; R. Manzanares ²; A. Barbosa ²; J. Garrido ³; M. Jaquete ⁴; I. Olazarán ⁴; A. Ximenez-Carrillo ¹; J. Vivancos ¹.

¹ Stroke Unit, Department of Neurology. University Hospital of la Princesa, Spain.
² Department of Radiology. University Hospital of la Princesa, Spain.
³ Department of Methodology. La Princesa Research Institute.
⁴ Universidad Autónoma de Madrid. University Hospital of la Princesa, Spain.

BACKGROUND:

The basilar artery occlusion (BAO) is a medical emergency with a high mortality rate. There are few radiological scores with prognostic capacity in BAO. Our main objective was to study the prognostic capacity of different radiological scales, and to compare them with the **BASILISK scale** (*BASILar Isquemic StroKе-scale*), a new scale for BAO designed in our centre. We also studied the possible relationship between the predictive capacity of this scales and different clinical and radiological characteristics.

METHODS:

Retrospective study of patients with BAO treated with endovascular therapy in our hospital, excluding non-revascularized patients. Different radiological scales of vertebrobasilar circulation (pc-CTA and BATMAN) and the BASILISK scale were applied in CT-angiography. All scales were correlated with outcome, measured with the mRS at 3 months (3m-mRS).

RESULTS:

n=19

Women	36 % (n=7)	Mean time from onset to CT (min)	246.8 (SD: 168.4)
Mean age (yo)	60,9 (SD: 15.3)	Mean time from CT to recanalization (min)	170.3 (SD: 89.8)
Median NIHSS	6 (3-14)	Primary thrombectomy	63.2 % (n=12)
Median GSC	14 (6-15)	Indeterminate etiology	52.6 % (n=10)
Median mRS3m	3 (0-6)	Cardioembolic etiology	26.3% (n=5)
3-month death	21.6 % (n=6)		

BASILISK SCALE	
Segment	Maximum punctuation
PCoA	5 points
Middle BA + SCA and/or AICA	3 points
PCA	2 points

The BASILISK scale is an exponential score with a maximum punctuation of 10 points. The points are subtracted according to the lack of opacification of different territories of the vertebrobasilar circulation. We gave a higher value to the absence of posterior communicating artery (PCoA) and cerebellar arteries located at middle BAO (SCA and AICA) as main collateral pathways.

A statistically significant association was found between:

↑ BASILISK-scale	↑ 3m-mRS	p=0.001 (Rho Spearman = -0.733) COR curve: p=0.03 (AUC = 0.825)
↑ BATMAN-scale	↑ 3m-mRS	p=0.004 (Rho Spearman= -0.678) COR curve: p=0.05 (AUC = 0,794)
↑ GCS	↑ 3m-mRS	p=0.006 (Rho Spearman= -0,735)
↓ Glycemia	↑ 3m-mRS	p=0.001 (Rho Spearman= 0,732)

CONCLUSIONS:

Despite the small number of patients in our study, a good prognostic correlation was found with different radiological scales in patients with BAO. There are more ongoing studies to define the usefulness of BASILISK scale in clinical practice.

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