OROLINGUAL ANGIOEDEMA AFTER INTRAVENOUS THROMBOLYSIS WITH ALTEPLASE IN ACUTE STROKE: BASELINE FEATURES, MANAGEMENT AND RELATED FACTORS

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BACKGROUND AND AIMS:

Orolingual angioedema (OA) after intravenous thrombolysis (IVT) with alteplase in acute ischemic stroke consists in an immune mediated, acute and self-limited swelling of subcutaneous or submucous tissue. When it affects the upper airway, it may represent a life-threatening complication.

It has been linked in many series with some predisposing factors like previous treatment with angiotensin converting enzyme inhibitors (ACE inhibitors). Our aim was to describe the incidence, clinical features, management and possible risk factors for developing OA after IVT.

METHODS:

We reviewed our prospective cohort of patients with ischemic stroke treated with intravenous alteplase in our institution during 8 consecutive years (from January 2011 to December 2018). Patients were classified into 2 groups: those who developed OA (OA+ group) and patients who did not present OA after IVT (OA-).

The following data were recorded: demographic variables, medical history, clinical presentation, vital signs, chronology and OA features. Baseline and clinical characteristics of OA+ and OA- patients were compared using bivariate analysis.

RESULTS:

- 512 patients were included. A total number of 7 patients (1,37%; 95% CI: 0.86% – 1.88%) developed OA.
- All OA+ patients had a previous history of hypertension, while in OA- previous hypertension was present in only 58%, [p=0.045]. OA was also related with diabetes (OR: 8,98 [CI 95%: 1,72-46,90; p=0,008]) and previous treatment with ACE inhibitors (OR: 12,53 [CI 95%: 2.39-65,67; p = 0,002]).
- OA distribution was unilateral in 4 cases and in 3 of them contralateral to an insular ischemic lesion.
- All OA were treated with corticosteroids, antihistamines were used in 3 cases, and icatibant (a novel B2 bradikynin receptor antagonist) was administered to one patient, resulting apparently in a more rapid resolution of the OA. In one case, endotracheal intubation was required due to airway compromise.

Table 1: Results.

	OA+ group N= 7	OA- group N= 505	P Value
Female sex (%)	4 (57.1%)	215 (42.6%)	0.468
Age (years)*	77 (56-85)	75 (61-82)	0.992
Arterial hypertension (%)	7 (100%)	293 (58.0%)	0.045
Diabetes Mellitus (%)	5 (71.4%)	110 (21.8%)	0.008
Dyslipidemia (%)	4 (57.1%)	199 (39.6%)	0.443
Smoking (%)	2 (28.6%)	128 (25.3%)	1.000
Previous Stroke/TIA (%)	1 (14.3%)	72 (14.3%)	1.000
Cardiopathy (%)	4 (57.1%)	360 (28.7%)	0.202
Alcohol abuse (%)	1 (14.3%)	47 (9.3%)	0.500
Previous ACE-I (%)	5 (71.4%)	84 /16.6%)	0.002
Previous ARB (%)	0 (0%)	63 (12.5%)	1.000
Previous Diuretic (%)	3 (42.9%)	100 (19.8%)	0.149
Previous CCB (%)	2 (28.6%)	50 (9.9%)	0.153
Previous Beta-blocker (%)	1 (14.3%)	83 (16.4%)	1.000
SBP (mmHg)*	162 (141-164)	150 (135-169)	0.715
DBP (mmHg)*	83 (71-91)	84 (75-93)	0.865
Glycaemia (mg/Dl)*	111 (101-167)	117 (105-139)	0.946
Platelet (10^3/mm^3)*	198 (151-235)	193 (156-237)	0.857
Baseline NIHSS score*	6 (5-10)	11 (7-18)	0.084
Onset to needle (min)*	143 (105-190)	135 (103-180)	0.674

*** Mann–Whitney U test: Median values (interquartile range).**

Image 1: Tongue swelling due to alteplase induced OA

CONCLUSIONS:

- OA occurred in 1,37% of stroke patients treated with intravenous alteplase in our centre.
- OA seems to be related with previous treatment with ACE inhibitors, history of diabetes and hypertension.
- Unilateral OA may be associated with contralateral insular involvement.
- Icatibant could be a treatment option in selected cases

References:

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