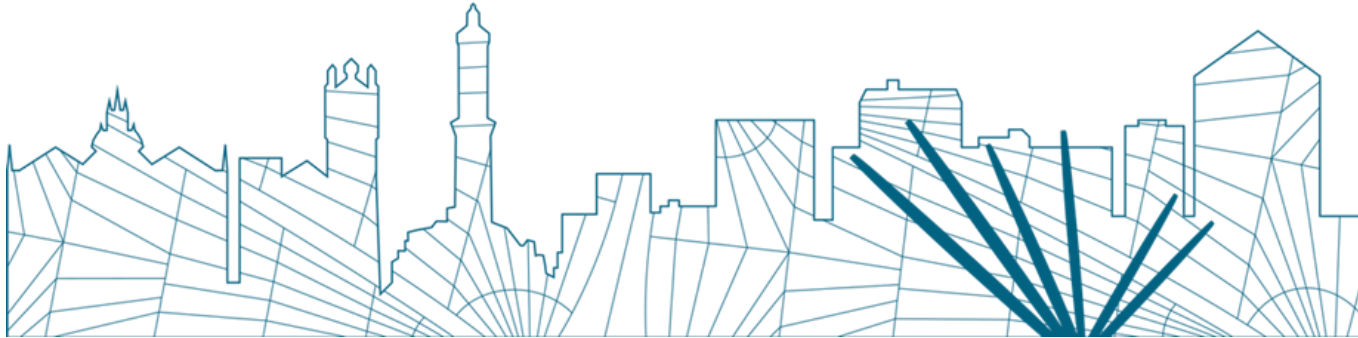




Amnesia globale transitoria: tra arterie e vene. **Il versante arterioso**

Dott. Davide Sassos

U.O. Neurologia con Centro Ictus

IRCCS Neuroscienze

Ospedale Policlinico San Martino - Genova

Schema della presentazione

- I. TGA come evento cerebrovascolare ischemico transitorio?
 - a. Punti di contatto
 - b. Punti di divergenza
- II. Amnesia ischemica
- III. Caratteristiche delle lesioni in DWI nella TGA «pura»
 - a. Timing
 - b. Sede
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Transient Global Amnesia

Julieta E. Arena, MD, and Alejandro A. Rabinstein, MD



TGA is a clinical syndrome characterized by the **sudden onset** of anterograde amnesia, accompanied by repetitive questioning, sometimes with a retrograde component, **lasting up to 24 hours**, without compromise of other neurologic functions.

TABLE 2. Differential Diagnosis of TGA*

Condition	Risk factors	Precipitating factors	Duration	Associated neurologic symptoms	MRI	EEG	Recurrence of attacks	Response to anticonvulsant medications
TGA	Migraine	Yes ^b	4-6 h	No	Hippocampal DWI hyperintensity, without permanent lesion	Normal	Low	No
TEA	No	No/yes ^c	<60 min ^d	No/yes (oral automatisms, olfactory or gustatory hallucinations)	Normal/hippocampal sclerosis or atrophy	Abnormal (temporal or frontotemporal regions)	High	Yes
TIA/stroke	Vascular risk factors	No	Minutes to permanent impairment	No/yes (any)	DWI with T2-FLAIR permanent lesion	Normal	Low	No

*DWI = diffusion-weighted imaging; EEG = electroencephalography; FLAIR = fluid-attenuated inversion recovery; MRI = magnetic resonance imaging; TEA = transient epileptic amnesia; TGA = transient global amnesia; TIA = transient ischemic attack.

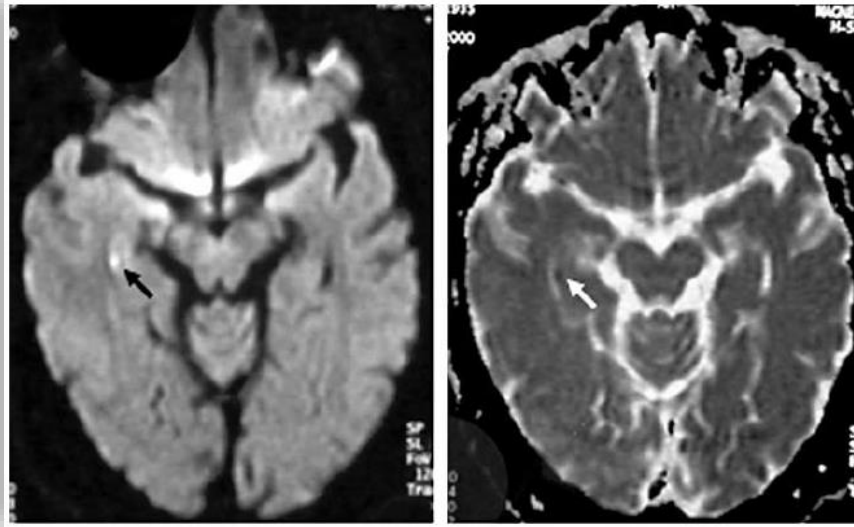
^bValsalva maneuver, emotional stress, immersion in cold or hot water, sexual intercourse, or pain.

^cWaking.

^dOften a few minutes.

Patients with TGA may frequently, but not always, show **hyperintense signal** on diffusion-weighted imaging (**DWI**) on **either or even both hippocampi**.

DWI in transient global amnesia and TIA: proposal for an ischaemic origin of TGA



DWI → 28% TIA patients and **36% TGA** patients showed **signal intensity changes**.

In **TGA** patients, **all the lesions** were located in **memory relevant structures** such as the hippocampus, the gyrus parahippocampalis, and the medial temporal lobe.

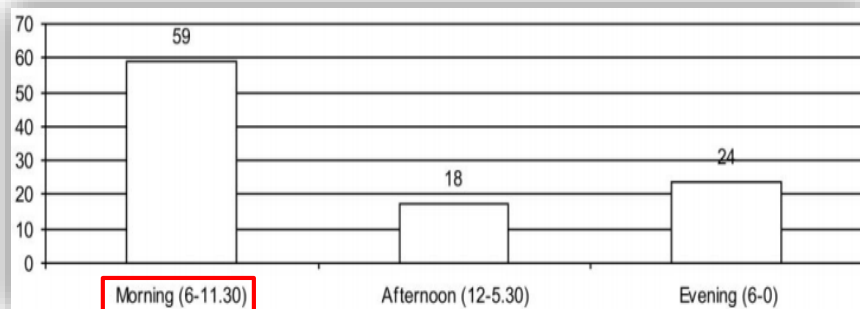
TGA patients with hyperintensive DWI lesions (**TGA+**) showed an **increased incidence** of **vascular risk factors**, an **increased IMT** (1.03 mm v 0.76 mm; $p=0.002$), and a higher prevalence of **carotid plaques** (70% v 17%, $p=0.01$), compared with those without lesions (TGA-).

Analysing the subgroup of **TIA and TGA patients with abnormal DWI** (TIA+ and TGA+), we detected **comparable risk factors in both groups**.

REVIEW ARTICLE

What does transient global amnesia really mean? Review of the literature and thorough study of 142 cases

P. Quinette et al.

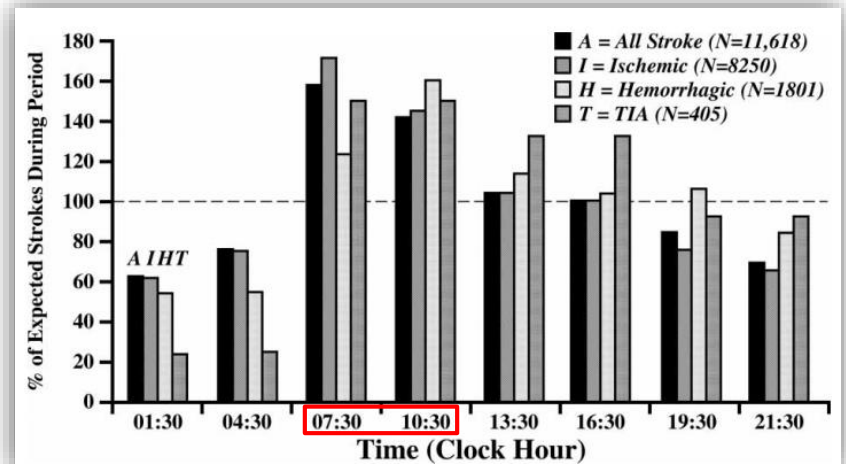


Brain (2006), 129, 1640–1658

REVIEW

CIRCADIAN VARIATION IN STROKE ONSET: IDENTICAL TEMPORAL PATTERN IN ISCHEMIC AND HEMORRHAGIC EVENTS

R. Manfredini et al.



Chronobiology International, 22(3): 417–453, (2005)

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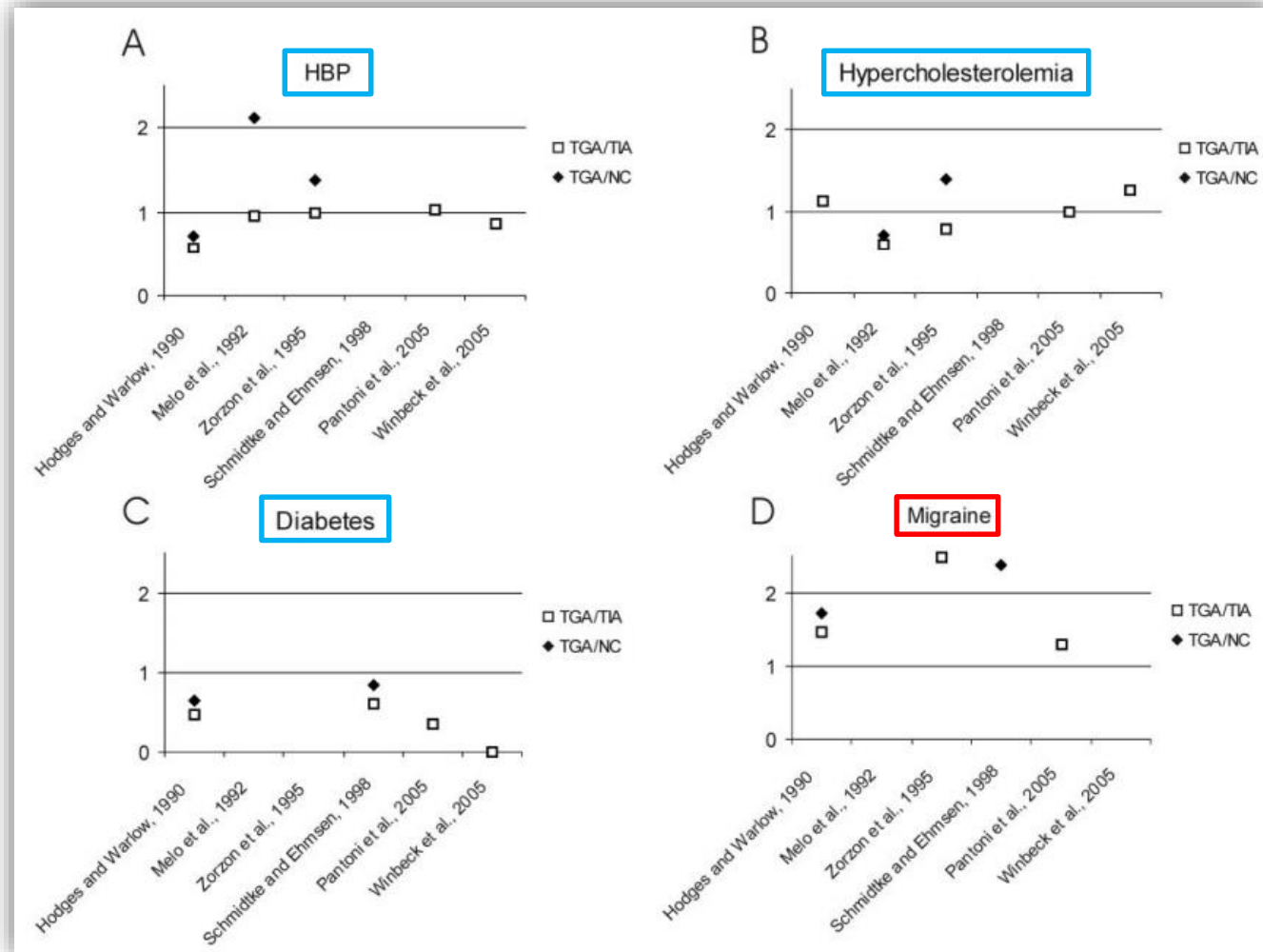
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What does transient global amnesia really mean?

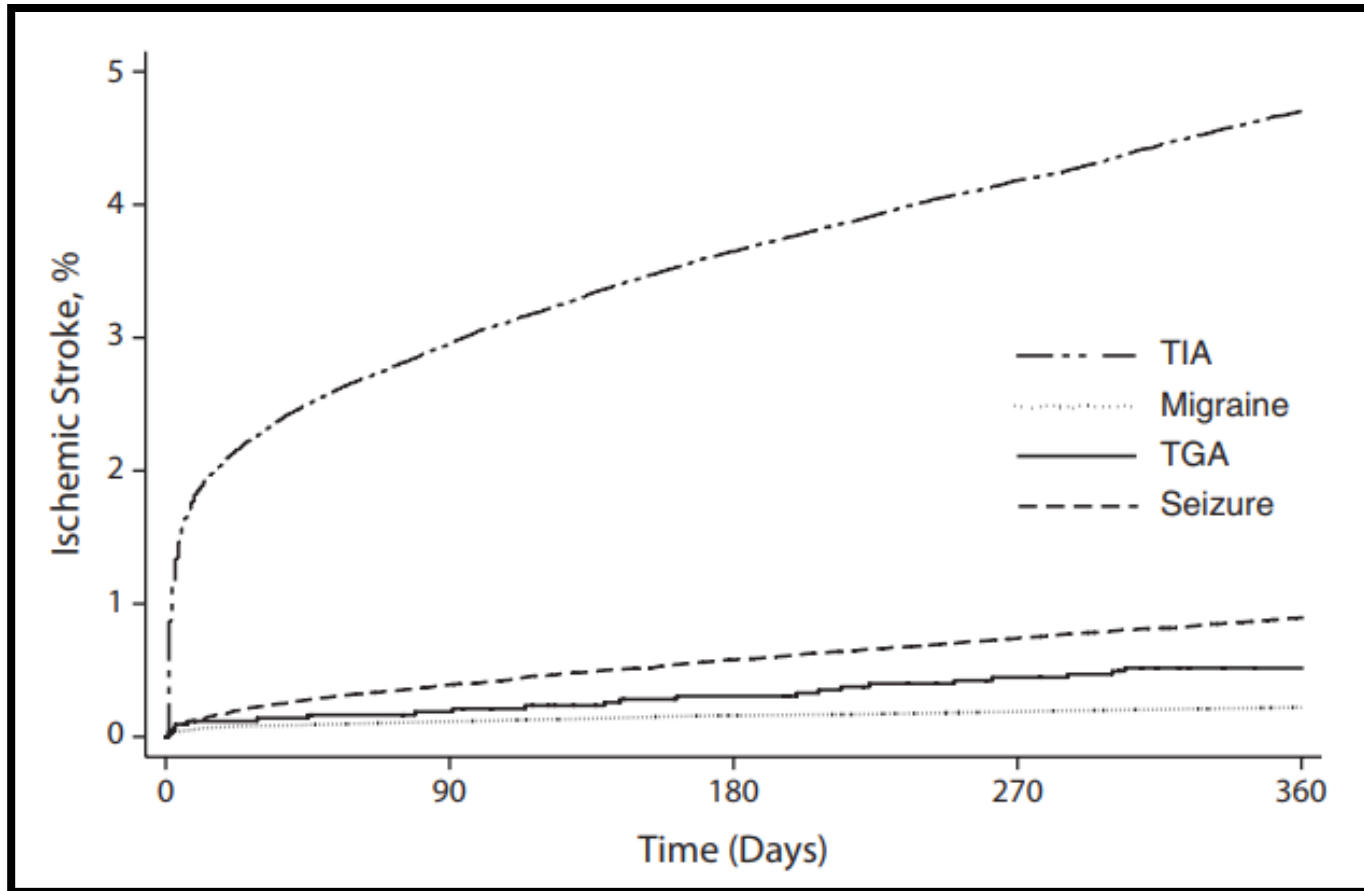
Review of the literature and thorough study of 142 cases

P. Quinette et al.



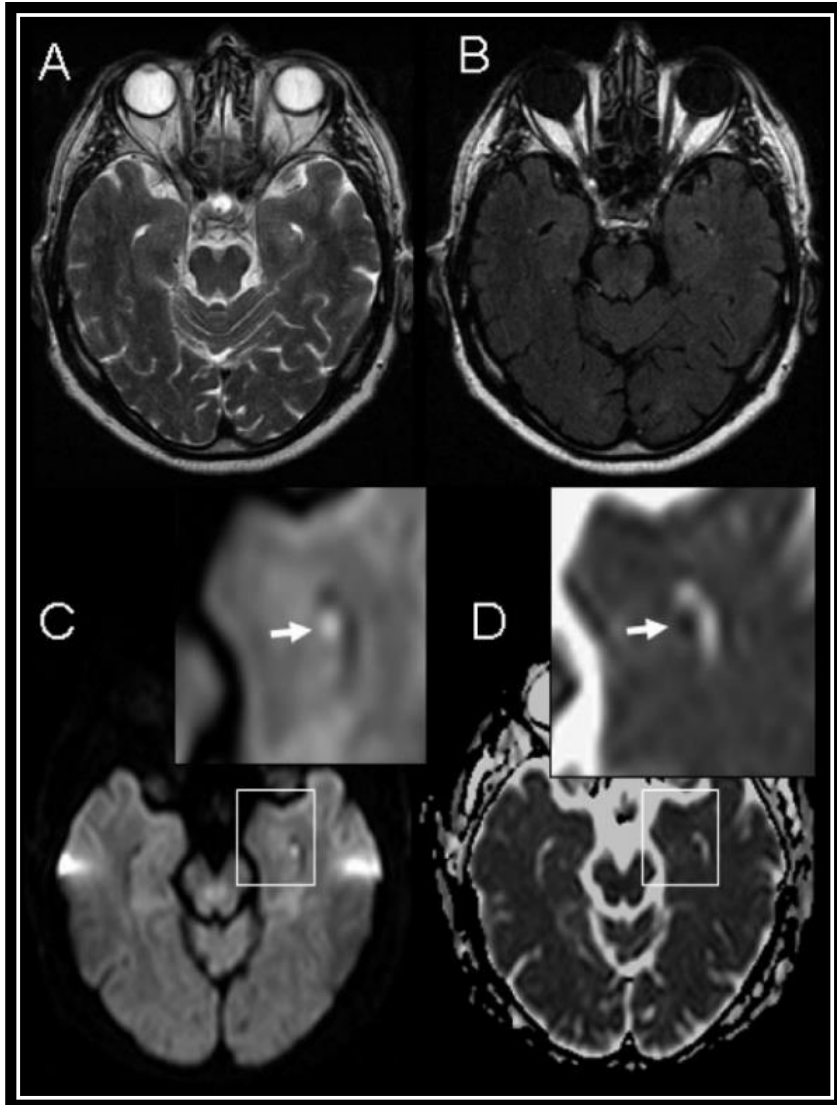
Transient Global Amnesia and the Risk of Ischemic Stroke

Atul Mangla, Babak B. Navi, Kelly Layton and Hooman Kamel



Transient Global Amnesia

Diffusion-Weighted Imaging Lesions and Cerebrovascular Disease



86 patients hospitalized for **TGA** (mean $\pm$ SD age, 65 $\pm$ 10.9 years; 62% female).

DWI lesions were observed in 10 patients with TGA (**11.5%**; mean $\pm$ SD age, 68.3 $\pm$ 5.4 years; 8 women).

The **vascular risk profile** of TGA patients and concomitant changes on brain MRI were **comparable** with those of **healthy controls** and did not show significant differences **between DWI+ and DWI-** subjects.

These findings **do not support a cerebrovascular etiology of TGA**, even in those individuals showing acute DWI lesions.

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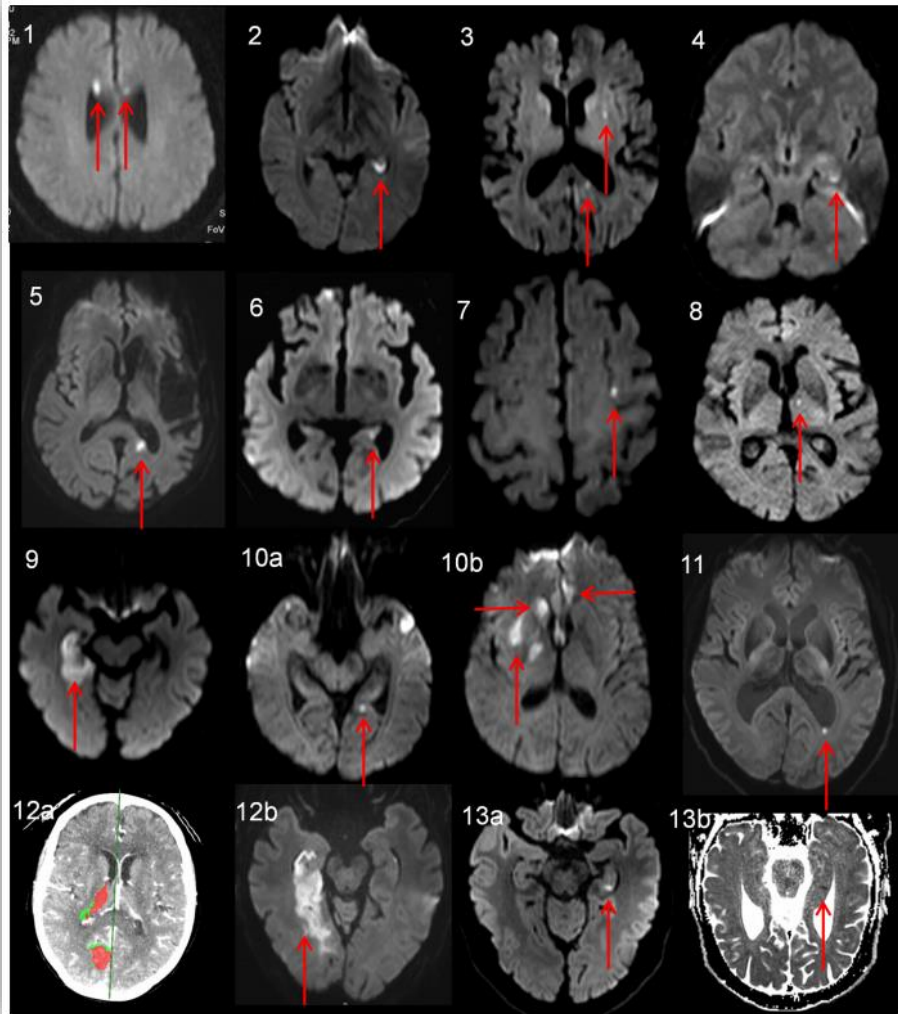
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Ischemic Amnesia

Causes and Outcome



During a **13.5-year observation period** in a single stroke center, **ischemic amnesia** was rare (**0.2%** of all patients with acute ischemic stroke/TIA).

The **correct diagnosis** was initially **missed** in approximately **half** of the patients.

The most frequent **erroneous diagnosis** was **TGA**.

Only **1.2%** of **clinical TGAs** were later shown to be **ischemic**.

In **69%** of **ischemic amnesia** cases, amnesia was transient with a median duration of **5 hours**.

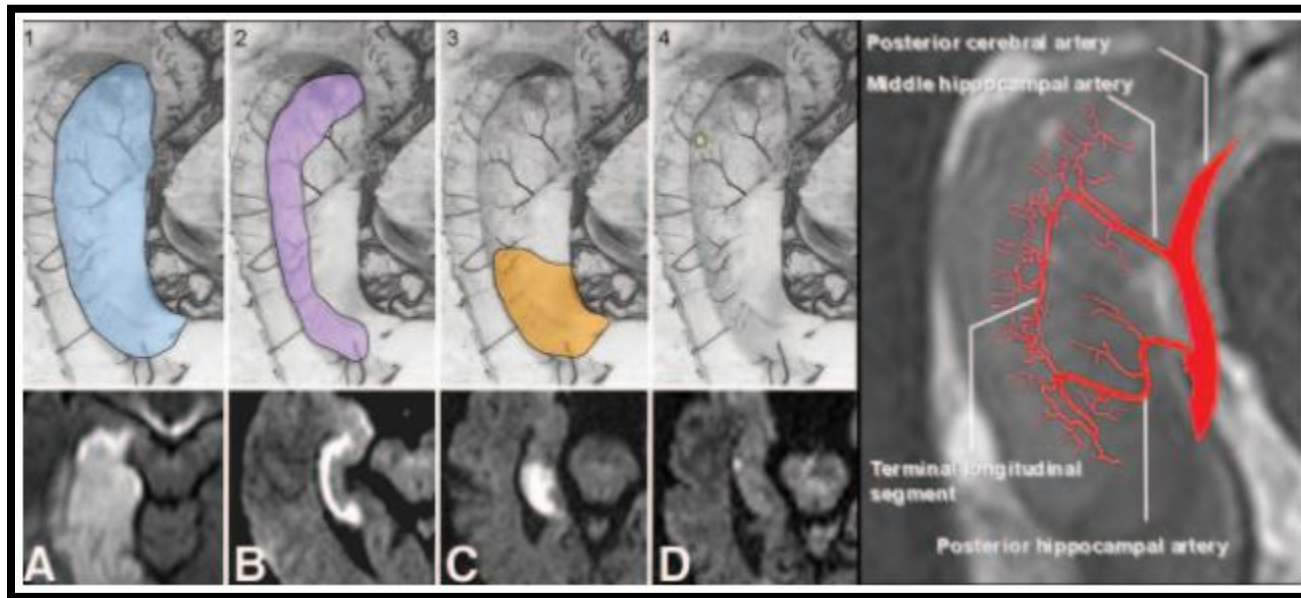
The ischemic amnesia strokes were more often **cardioembolic** (53.8% versus 28.9%), **multiterritorial** (30.7% versus 6.9%), and involving the **posterior circulation** (92.3% versus 27.8%) when compared with the non-amnesic acute ischemic stroke.

Hippocampal Lesion Patterns in Acute Posterior Cerebral Artery Stroke

Clinical and MRI Findings

Unilateral hippocampal infarct (HI) in **95%** and bilateral HI in 5% of patients.

Visual analysis identified 4 patterns of DWI lesion, corresponding well to hippocampal vascular anatomy.



- In **all cases** DWI showed **further ischemic lesions** in the **posterior circulation**.
- Symptoms from lesions outside the hippocampus were the common leading clinical signs.
- Mnestic deficits were prominent in only 19% of patients

**Transient Global Amnesia and Amaurosis Fugax
in a Patient with Common Carotid Artery Occlusion**

A Case Report

Sien-Tsong Chen, MD
Lok-Ming Tang, MD, MSc
Tsong-Hai Lee, MD, PhD
Long-Song Ro, MD, PhD
and Rong-Kuo Lyu, MD

TAIPEI, TAIWAN

LETTER TO THE EDITOR

**TRANSIENT GLOBAL AMNESIA AS THE FIRST SYMPTOM OF PRIMARY
ANTIPHOSPHOLIPID SYNDROME: A CASE REPORT**

E.M. ZARDI¹, D.M. ZARDI², Z. LAZAREVIC³, S. SANTUCCI², F. D'ERRICO⁴,
A. CARBONE⁴, C. GONNELLA⁴, A. AFELTRA¹ and S. TONIONI¹

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Clinical Neurology and Neurosurgery 108 (2005) 60–62

Case report

Transient global amnesia heralding basilar artery thrombosis

Robert A. Taylor^a, Gregory F. Wu^a, Robert W. Hurst^b,
Scott E. Kasner^a, Brett L. Cucchiara^{a,*}

^a Department of Neurology, University of Pennsylvania Medical Center, 3400 Spruce Street, Philadelphia, PA 19104, USA
^b Department of Radiology, University of Pennsylvania Medical Center, Philadelphia, PA, USA

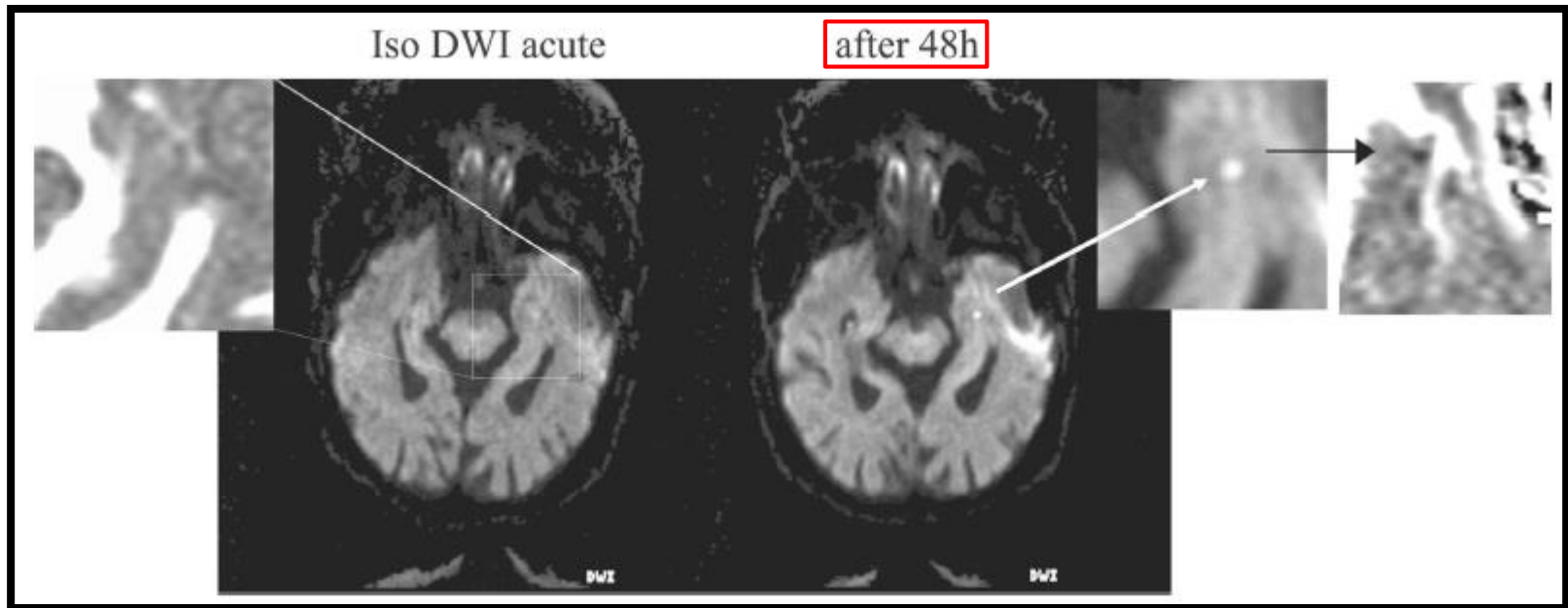
**Clinical Neurology
and Neurosurgery**

www.elsevier.com/locate/clineneuro

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Detection of delayed focal MR changes in the lateral hippocampus in transient global amnesia



- Of 31 consecutive patients studied, 26 developed a small, punctate DWI lesion in the lateral aspect of the hippocampal formation.
- **Lesions were rarely noted in the hyperacute phase (n=2), but all became visible regularly at 48 hours.**
- The delayed detectability of the lesions may explain the incongruence of previous MR DWI studies in TGA patients.

Transient global amnesia: functional anatomy and clinical implications

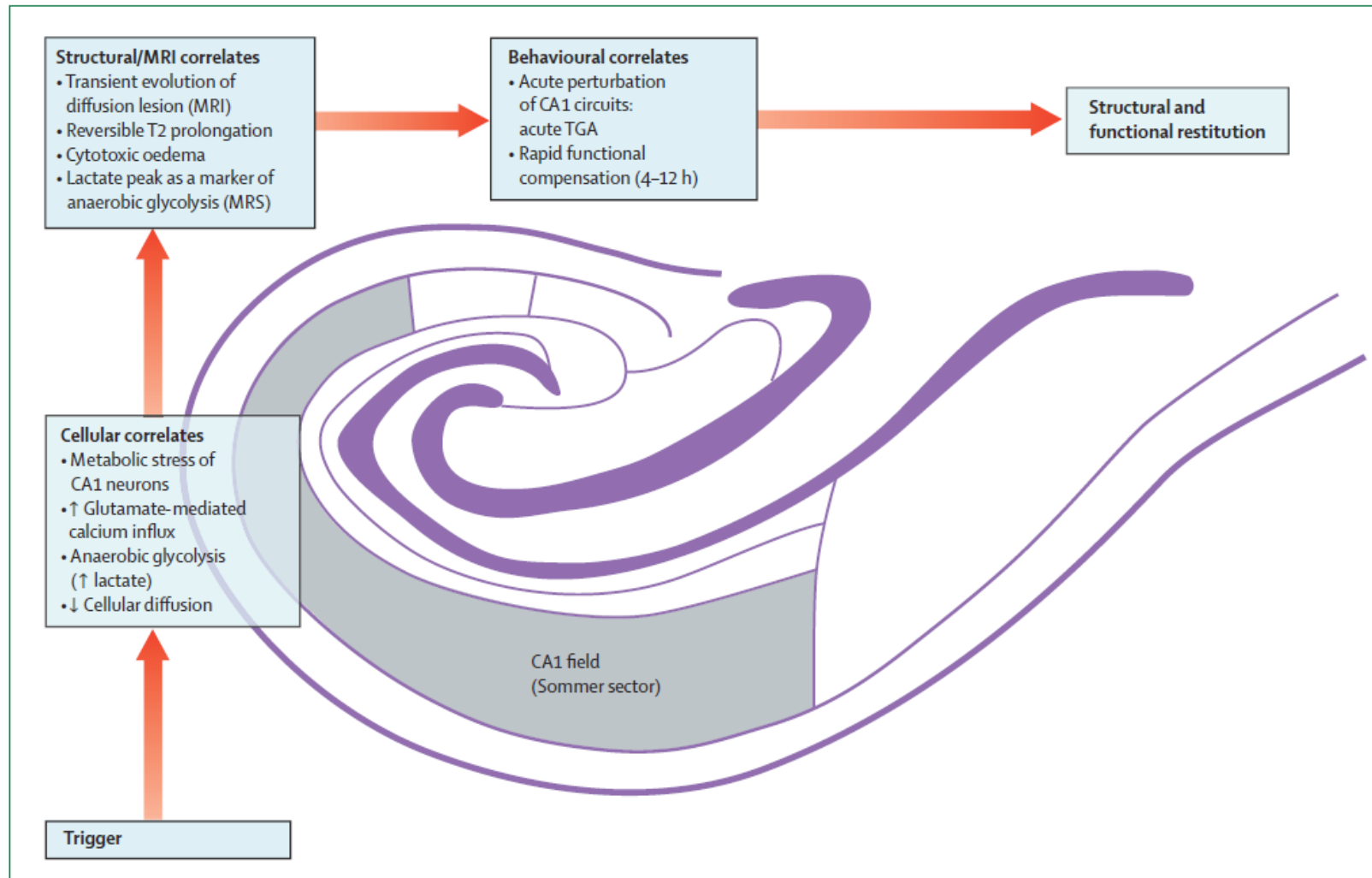
Almost all lesions can be selectively found in the area corresponding to the **CA1 sector** of the hippocampal cornu ammonis.



Selective vulnerability to metabolic and oxidative stress caused by **hypoxaemia**, **β -amyloid-induced neurotoxicity**, and **ischaemia mediated by glutamate overload and calcium influx**.

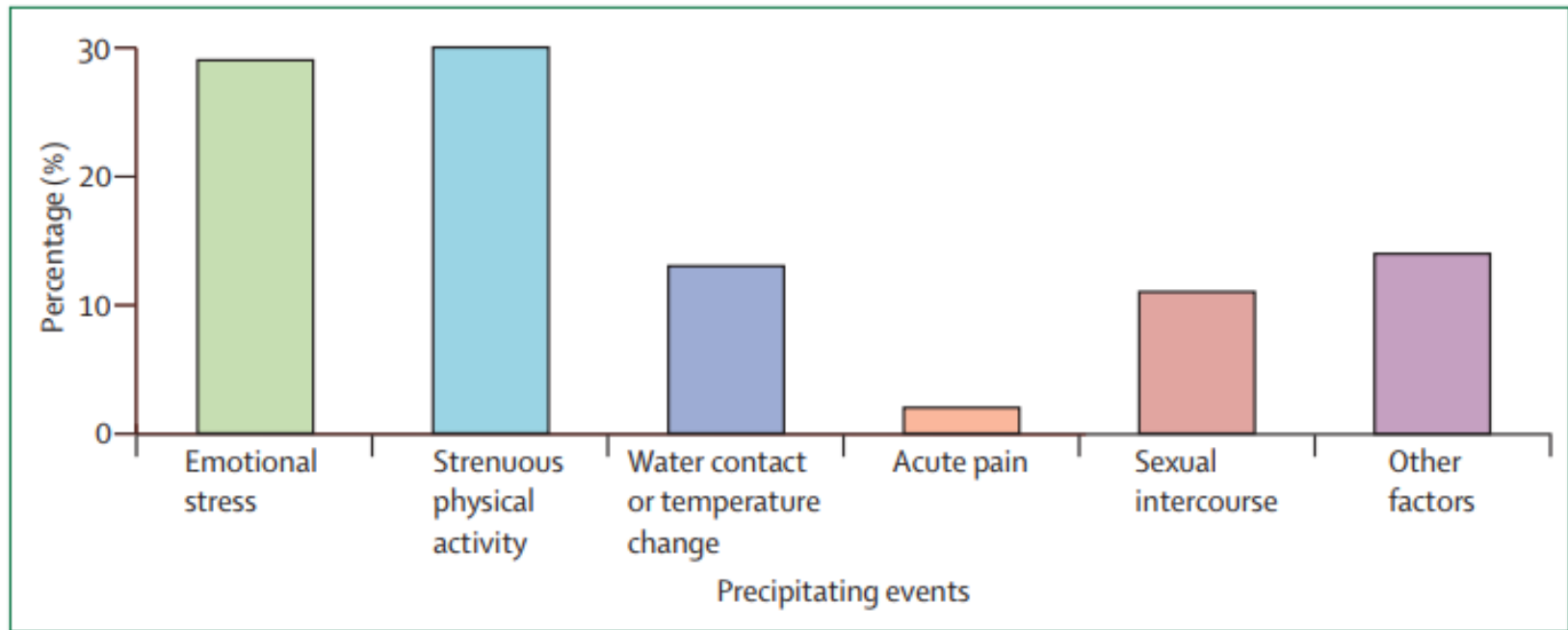
→ genomic-determined differences in the tolerability to glutamate and distribution of glutamate receptors.

Transient global amnesia: functional anatomy and clinical implications



Transient global amnesia: functional anatomy and clinical implications

Frequency of various **precipitating events** directly before the onset of an acute TGA



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Take home messages



- L'Amnesia Globale Transitoria rappresenta una sindrome clinica che almeno in alcuni casi può avere un'eziologia cerebrovascolare ischemica.
- La diagnosi di amnesia «ischemica» viene inizialmente mancata in circa la metà dei pazienti (Ictus/TIA a presentazione atipica).
- Valutare sempre con molta attenzione l'eventuale presenza di sintomi/segni associati nonché la presenza di plurimi fattori di rischio vascolare.
- Se tutti i pazienti o solo un sottogruppo di pazienti debbano sottoporsi a test diagnostici per malattia cerebrovascolare e/o ricevere una terapia medica di prevenzione secondaria resta da determinare.
- Nei pazienti con diagnosi clinica di AGT non assumere una prognosi invariabilmente favorevole ma insistere sull'analisi fisiopatologica del singolo caso.

Grazie per l'attenzione

