

# Stroke Classification

## OCSP Classification of Infarcts

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# OCSF Classification of Infarcts

- Total Anterior Circulation Stroke  
TACS
- Partial Anterior Circulation Stroke  
PACS
- Lacunar Stroke  
LACS
- Posterior Circulation Stroke  
POCS

# OCSF Classification of Infarcts

- Bamford et al (1991)  
Oxfordshire Community Stroke Project  
675 stroke patients – 543 Cerebral Infarction
- Stroke subtypes – Stratification by Clinical Presentation
- Valid & Reliable – Lindley et al (1993), Lindgren et al (1994), Mead (2000), Wlodek et al (2004) – CT / MRI

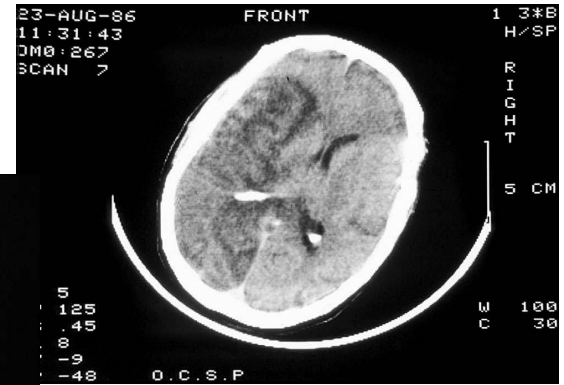
# Stroke Subtypes



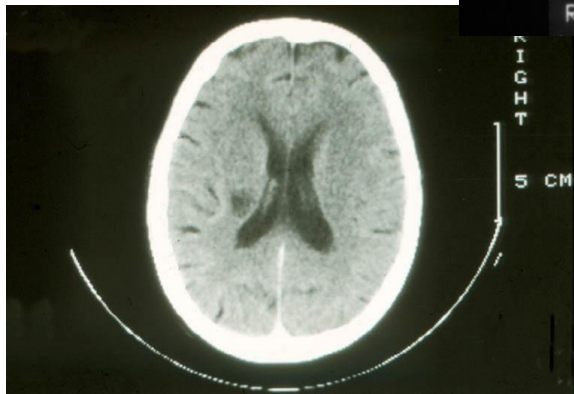
PACI



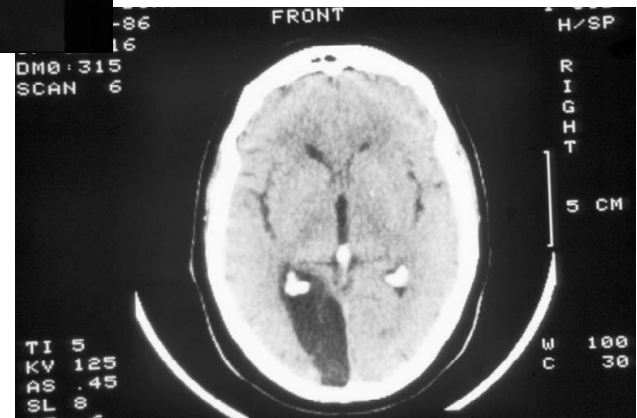
PICH



TACI



LACI



POCI

- **TACS**: presentation with a combination of new higher cerebral dysfunction, homonymous visuospatial field deficit and motor and/or sensory deficit of at least two areas of the face, arm and leg. Vascular occlusion related to either blockage of both anterior and middle cerebral arteries or both cortical and deep perforating branches of the middle cerebral artery.

# Blocked blood vessels

Distal Middle Cerebral Artery Occlusion

Motor and sensory cortex infarcted

Leg area of cortex spared

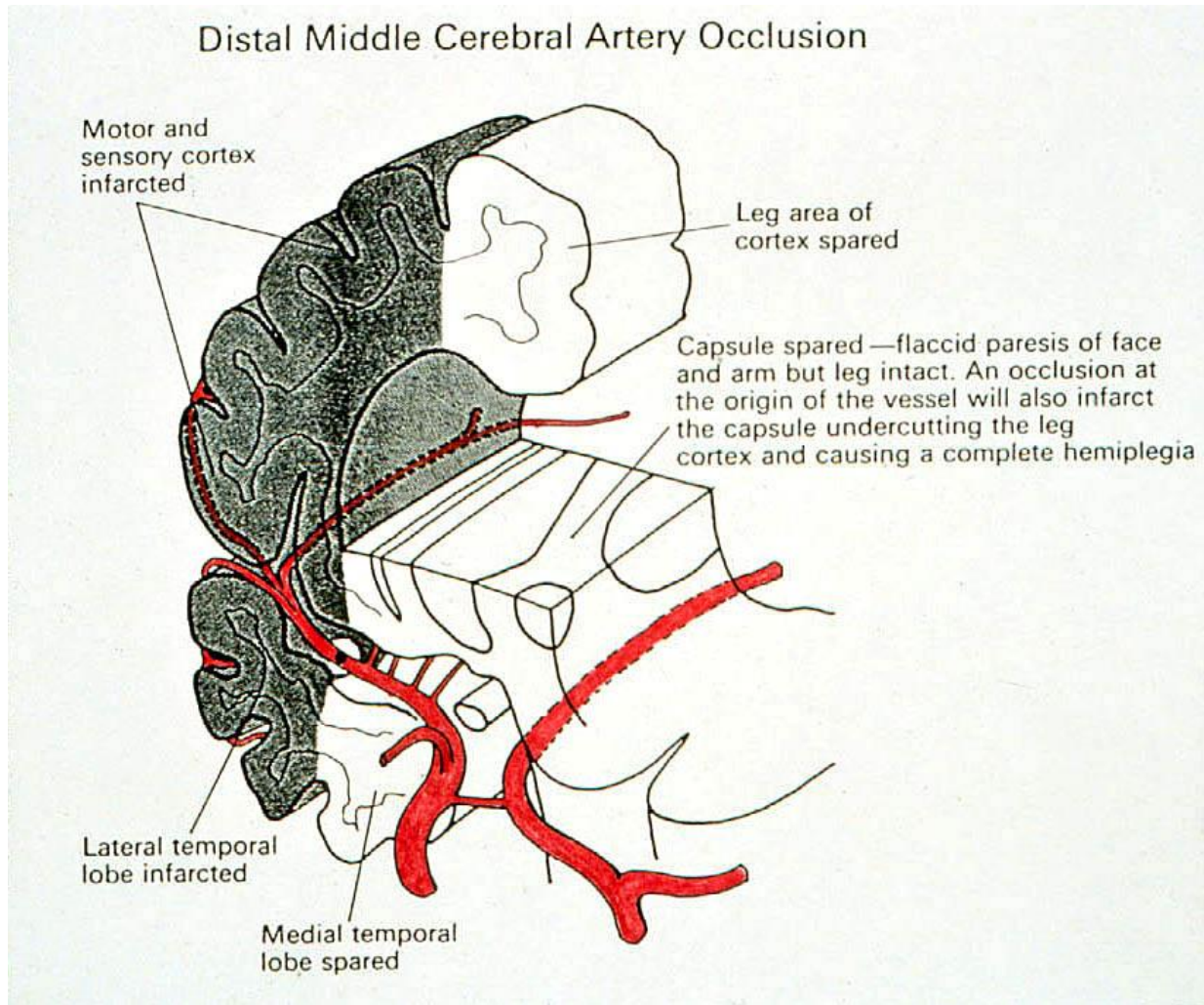
Capsule spared—flaccid paresis of face and arm but leg intact. An occlusion at the origin of the vessel will also infarct the capsule undercutting the leg cortex and causing a complete hemiplegia

Lateral temporal lobe infarcted

Medial temporal lobe spared

Anterior

Posterior



23-AUG-86  
11:31:43  
DM0:267  
SCAN 7

FRONT

1 3#B  
H/SP

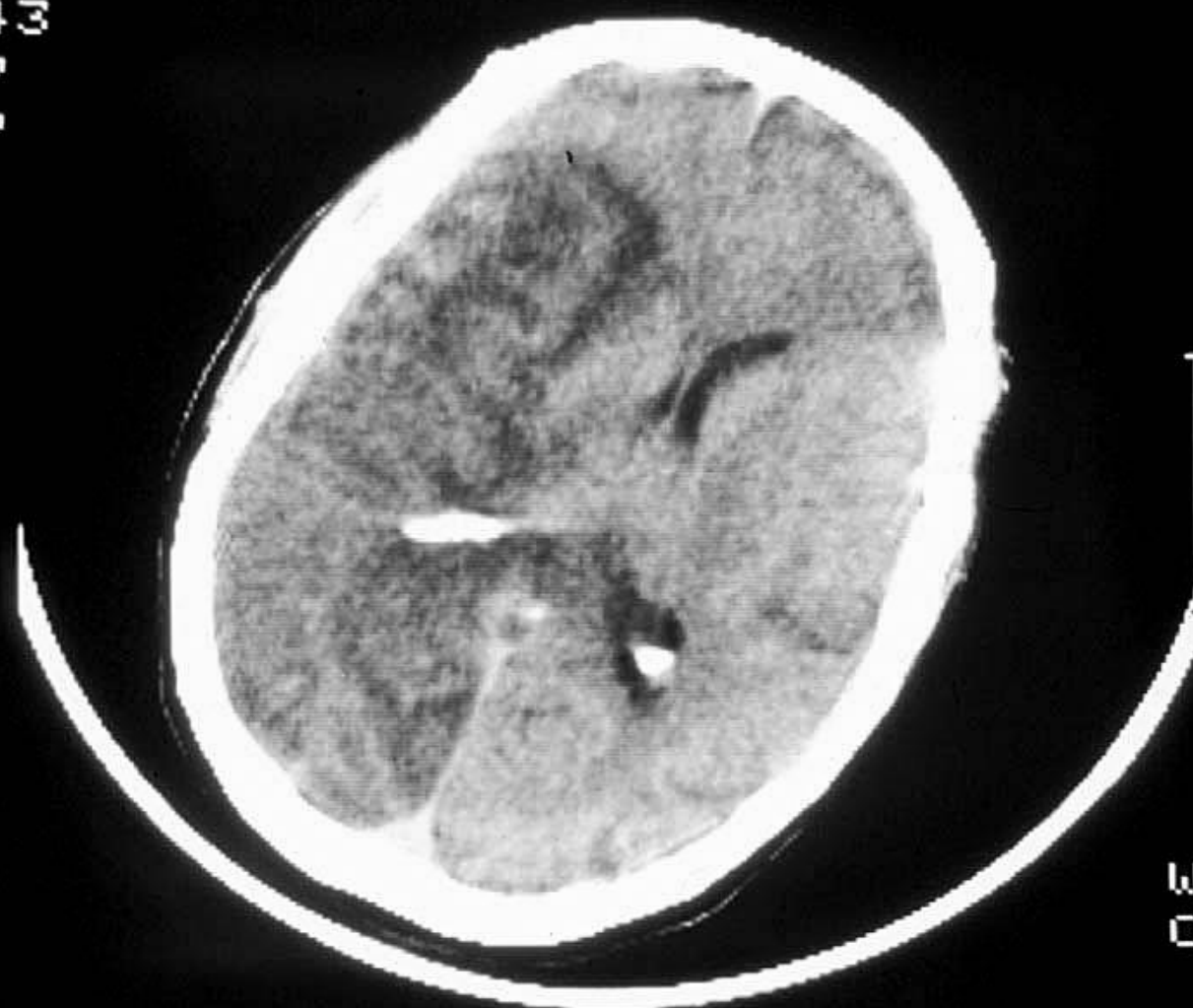
R  
I  
G  
H  
T

5 CM

TI 5  
KV 125  
AS .45  
SL 8  
GT -9  
TP -48

W 100  
C 30

O.C.S.P



- **PACS**: presentation with any two of the above. Vascular occlusion restricted to cortical branches of the middle or anterior cerebral arteries with sparing of the internal capsule.



309/XR117156

Image 12

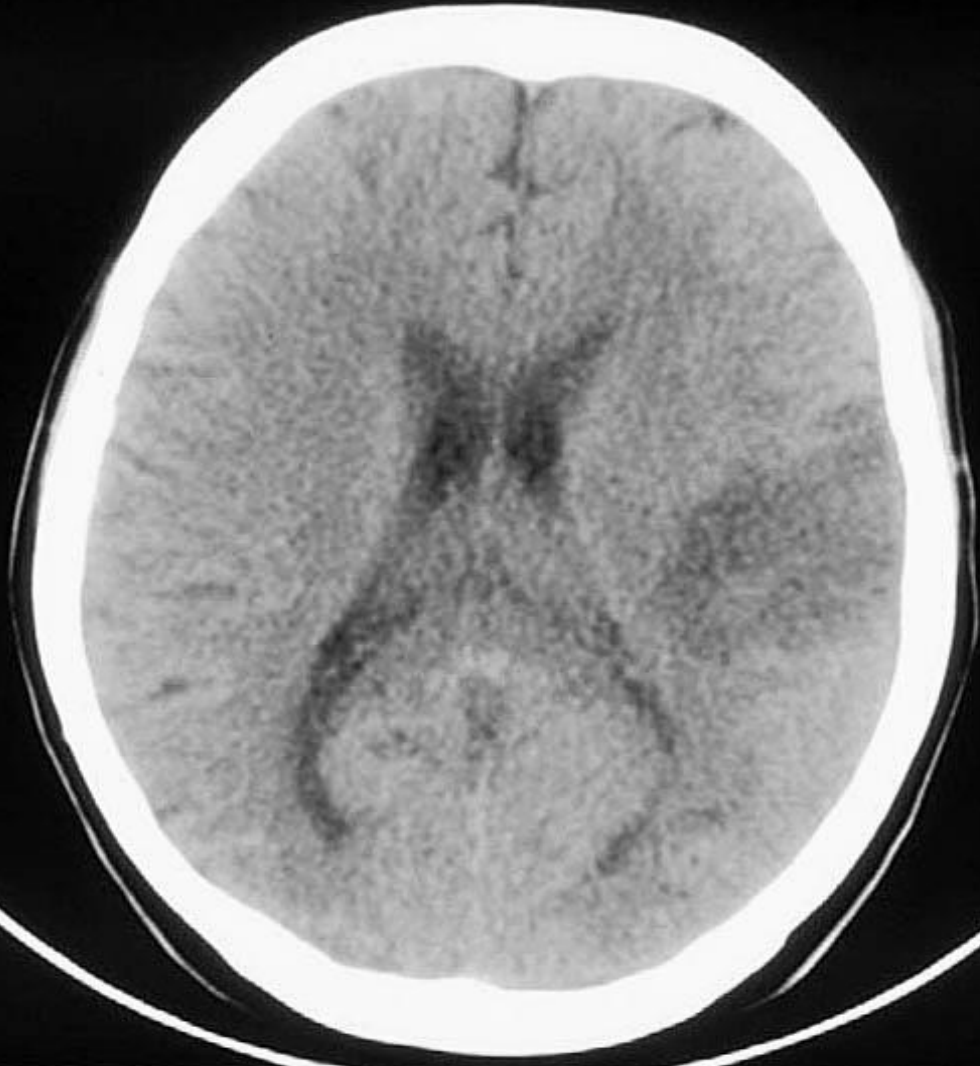
ANTERIOR

11:36:00

Scan 11

TP 181

R  
I  
G  
H  
T



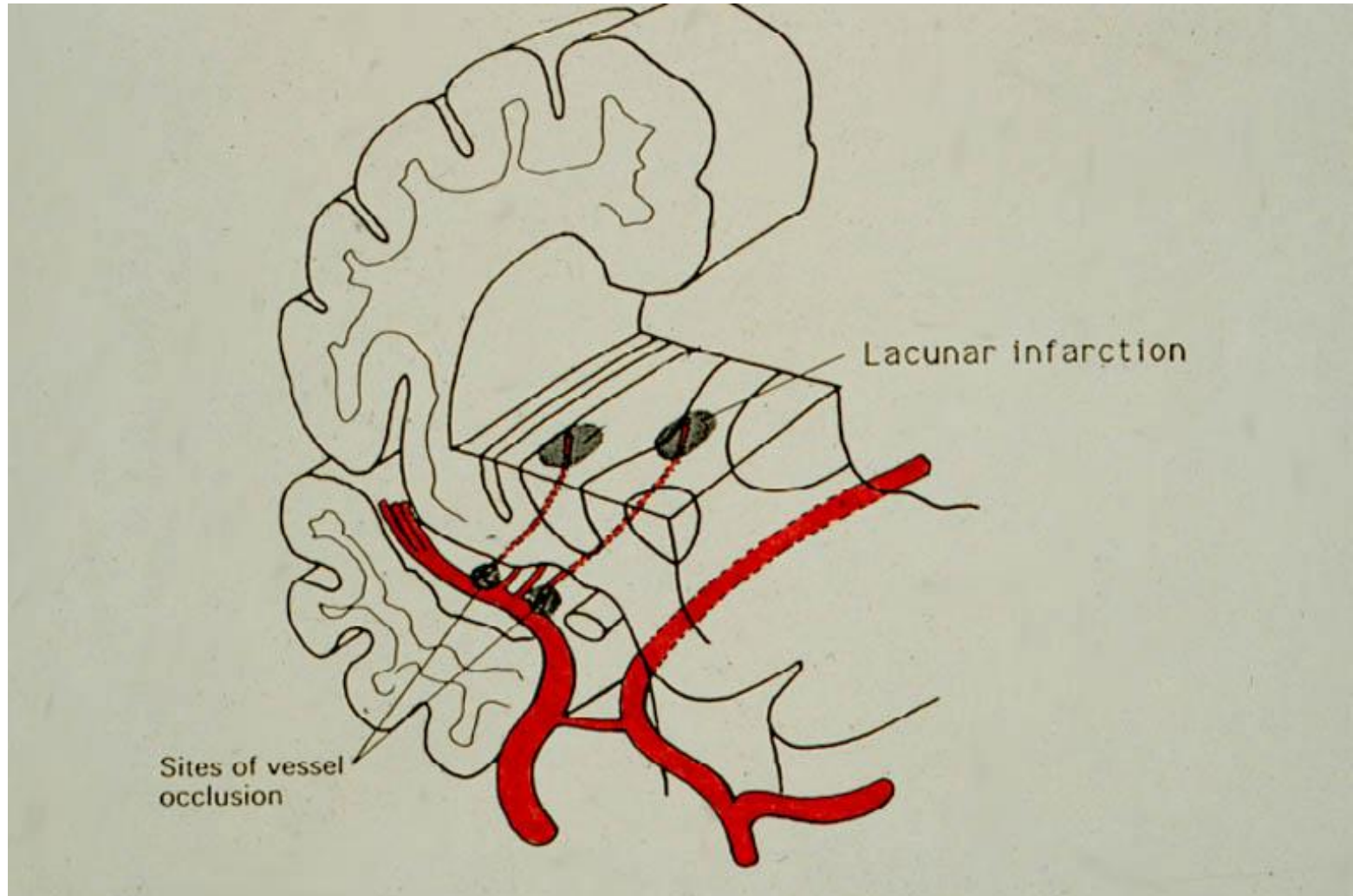
300

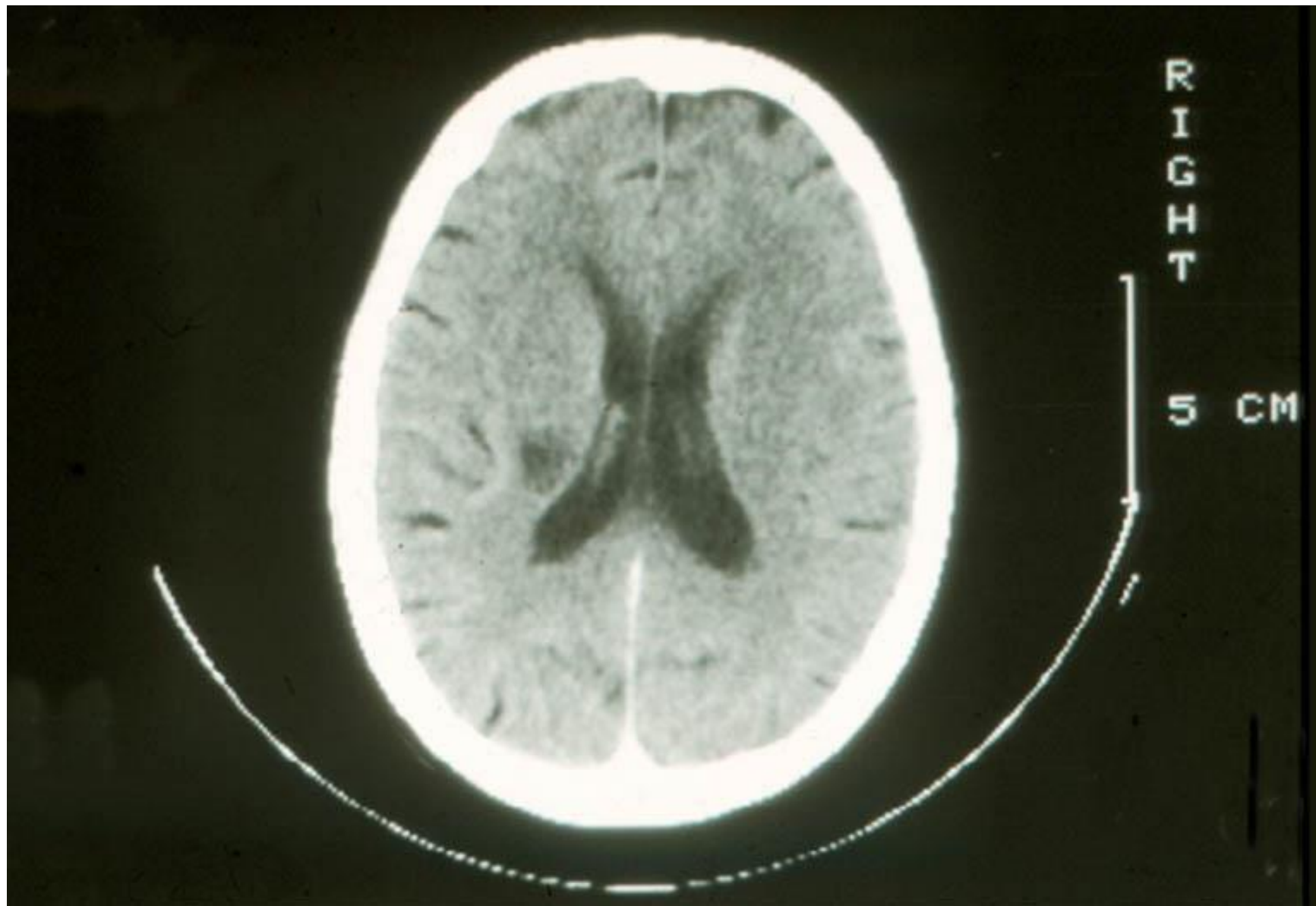
TI 220  
BA 210  
KV 120  
SL 10  
GT -25  
NO 2.4  
CE -6  
AH 10  
7572  
19-NOV-92

W 120  
C 40

- **LACS**: presentation with pure motor stroke, pure sensory stroke, sensorimotor stroke, ataxic hemiparesis or acute focal movement disorder. Vascular occlusion related to deep perforating vessels of all cerebral arteries to include the perfusion of the internal capsule and diencephalon.

# Likely blocked blood vessels





- **POCS**: presentation with ipsilateral cranial nerve palsy plus contra-lateral hemiplegia, bilateral motor/sensory deficit, disconjugate gaze, cerebellar dysfunction or isolated homonymous visual field defects. Vascular occlusion related to the circulation arising from vertebro-basilar arterial distribution.

FRONT

11-SEP-86

17:08:16

DM0:315

SCAN 6

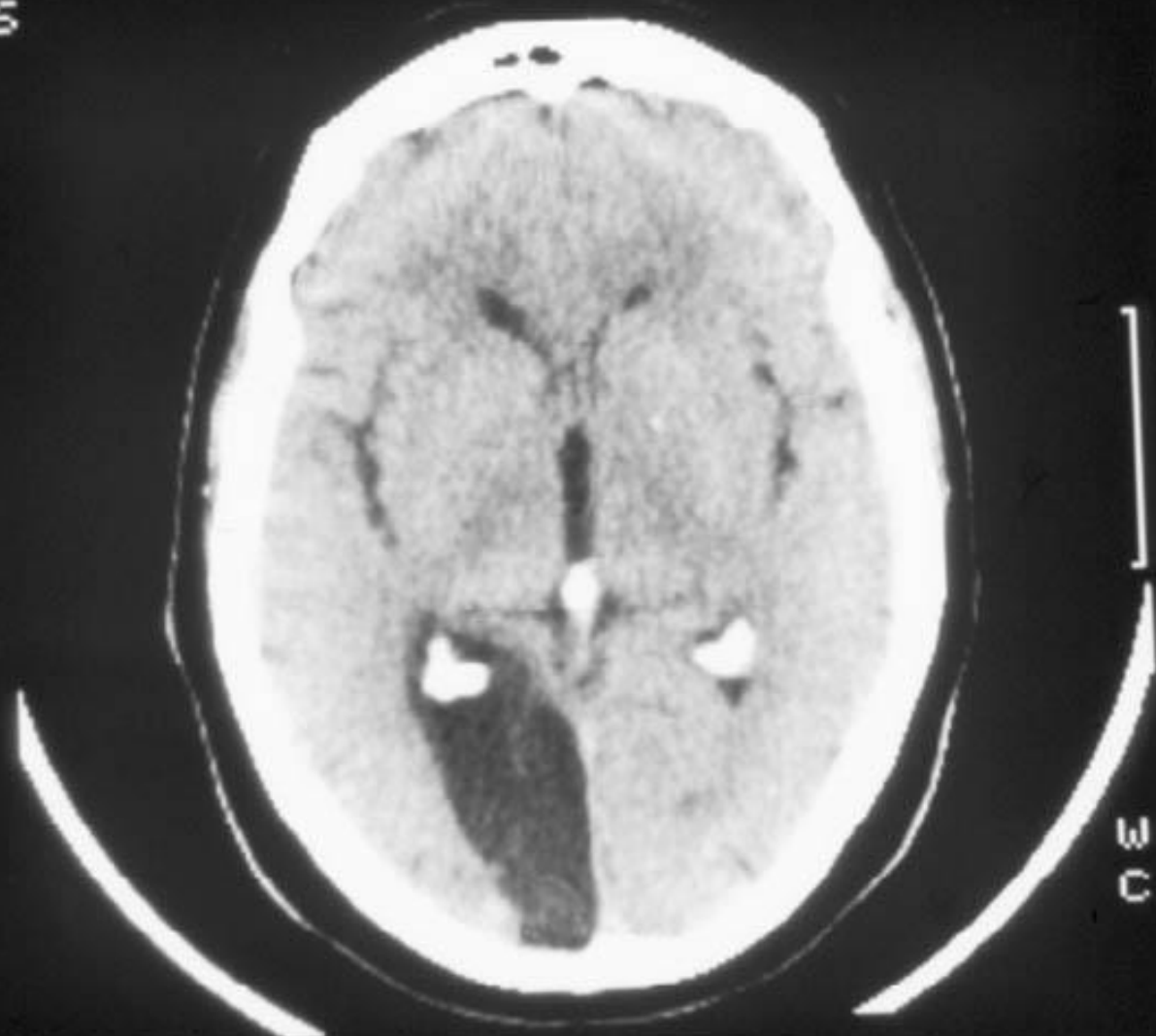
H/SP

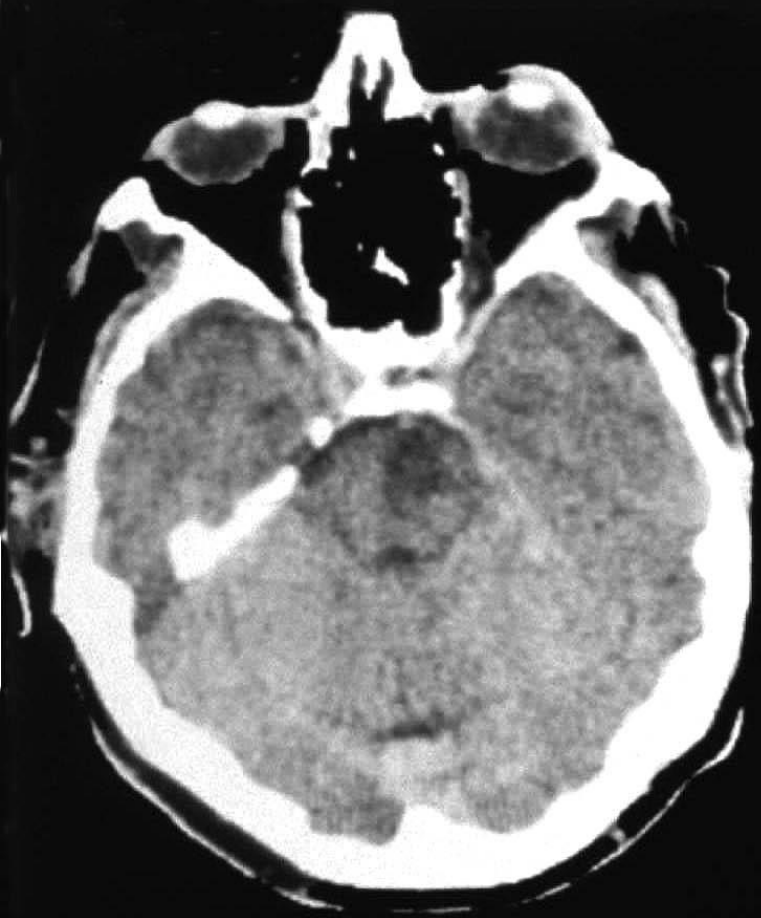
R  
I  
G  
H  
T

5 CM

TI 5  
KV 125  
AS .45  
SL 8

W 100  
C 30



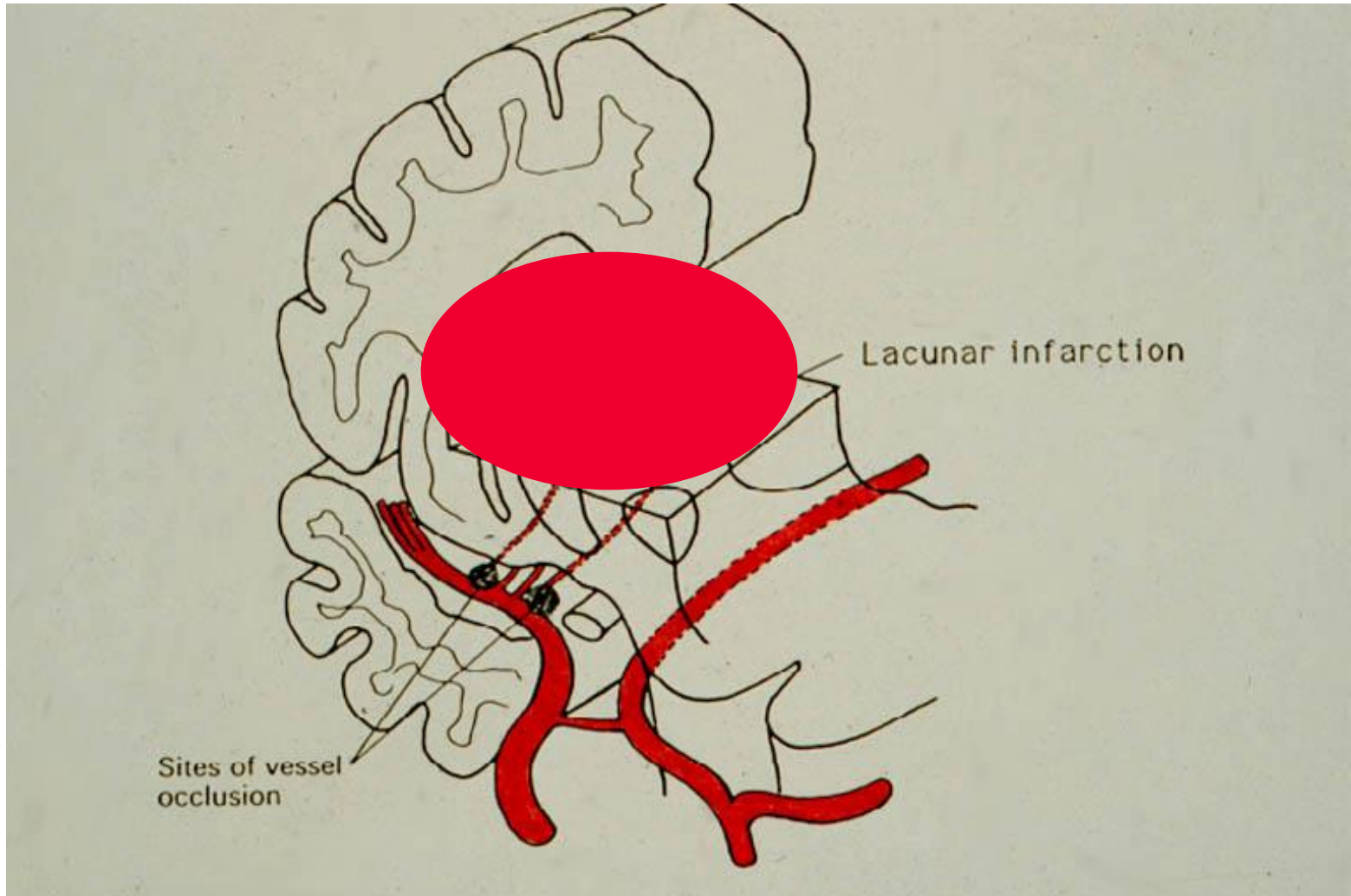


# Primary intra-cerebral haemorrhage?

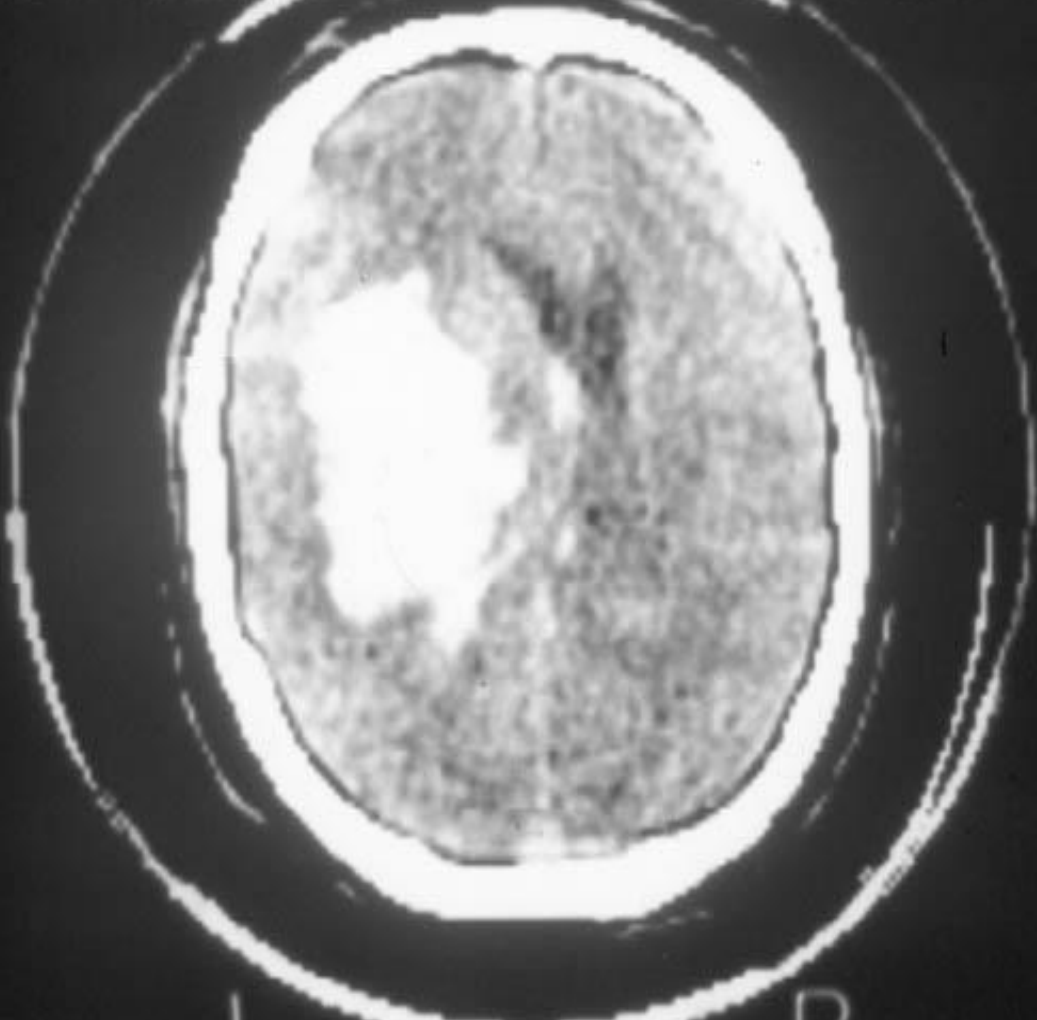
- Imaging will exclude haemorrhagic stroke
- A PICH will be classified as TACS, PACS, LACS or POCS
- A confirmed infarct will be classified as TACI, PACI, LACI or POCI



# Likely ruptured blood vessels



0046 BOKNESB 030  
24 SEP 1977



+L  
004  
W  
007

RADCLIFFE: INF: OXFORD

# How to decide on Classification

- Anterior or Posterior circulation?
  - Posterior → **POCS**
  - Anterior then →
- Cortical involvement?
  - No → **LACS**
  - Yes, then how extensive?
- Limited → **PACS**
- Extensive → **TACS**

Scan to exclude haemorrhage

# How does knowing this help?

- Prognosing recovery from stroke?
- Informing clinical reasoning?
- Improving multidisciplinary goal setting?



# OCSP Classification

Features	TACS	PACS	LACS	POCS
Site of lesion	79 %	71 %	73 %	83 %
Size of lesion	Large	Medium	Small	Med-Small
Causation				
- carotid dis.	High	High	Low	Irrelevant
- cardioembo	High	High	Low	Medium
Recurrence	6 %	17 %	9 %	20 %

# OCSF Classification

Outcome	TACS	PACS	LACS	POCS
Dead	60 %	16 %	11 %	19 %
Dependent	36 %	29 %	28 %	18 %
Independent	4 %	55 %	60 %	62 %

Acknowledge Professor Martin Dennis,  
University of Edinburgh for CT Scan  
slide images