Ictus aproximación clínica

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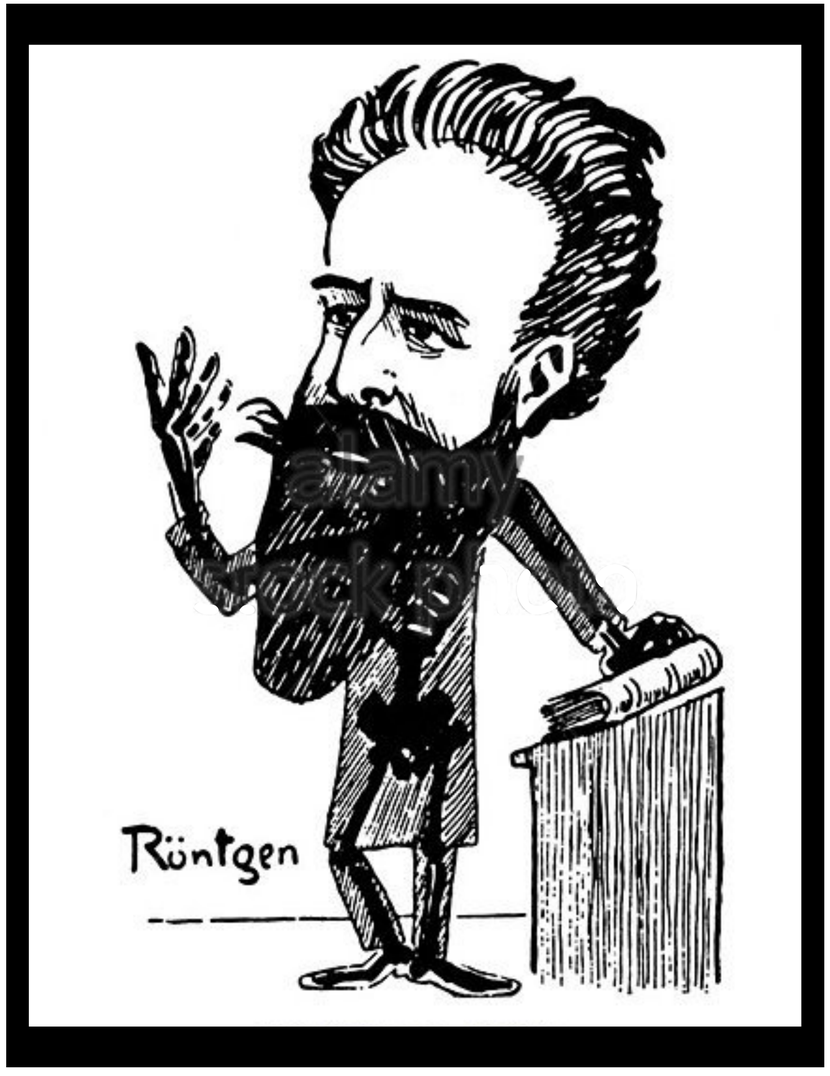
XVII CURSO NACIONAL DE NEURORRADIOLOGÍA

Neurorradiología en la Patología Vascular Cerebral

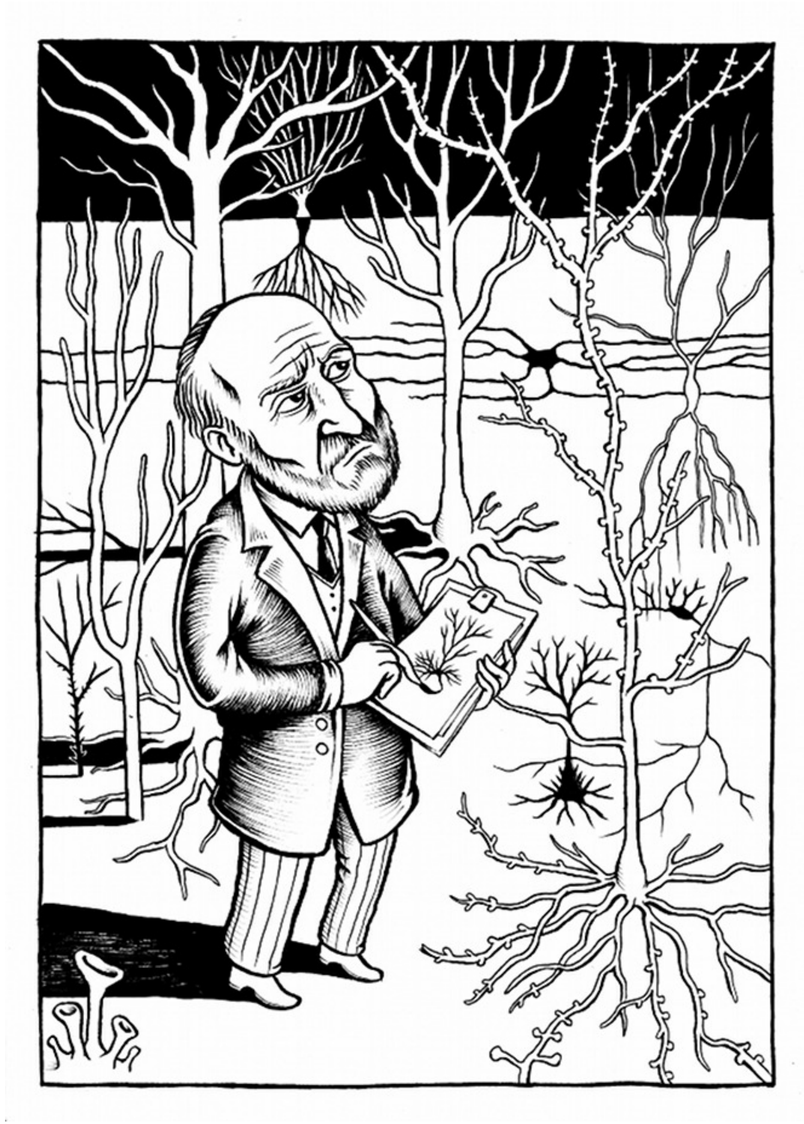
22-26 febrero 2021

EDICIÓNVIRTUAL

S.E.N.R
Sociedad Española de Neurorradiología



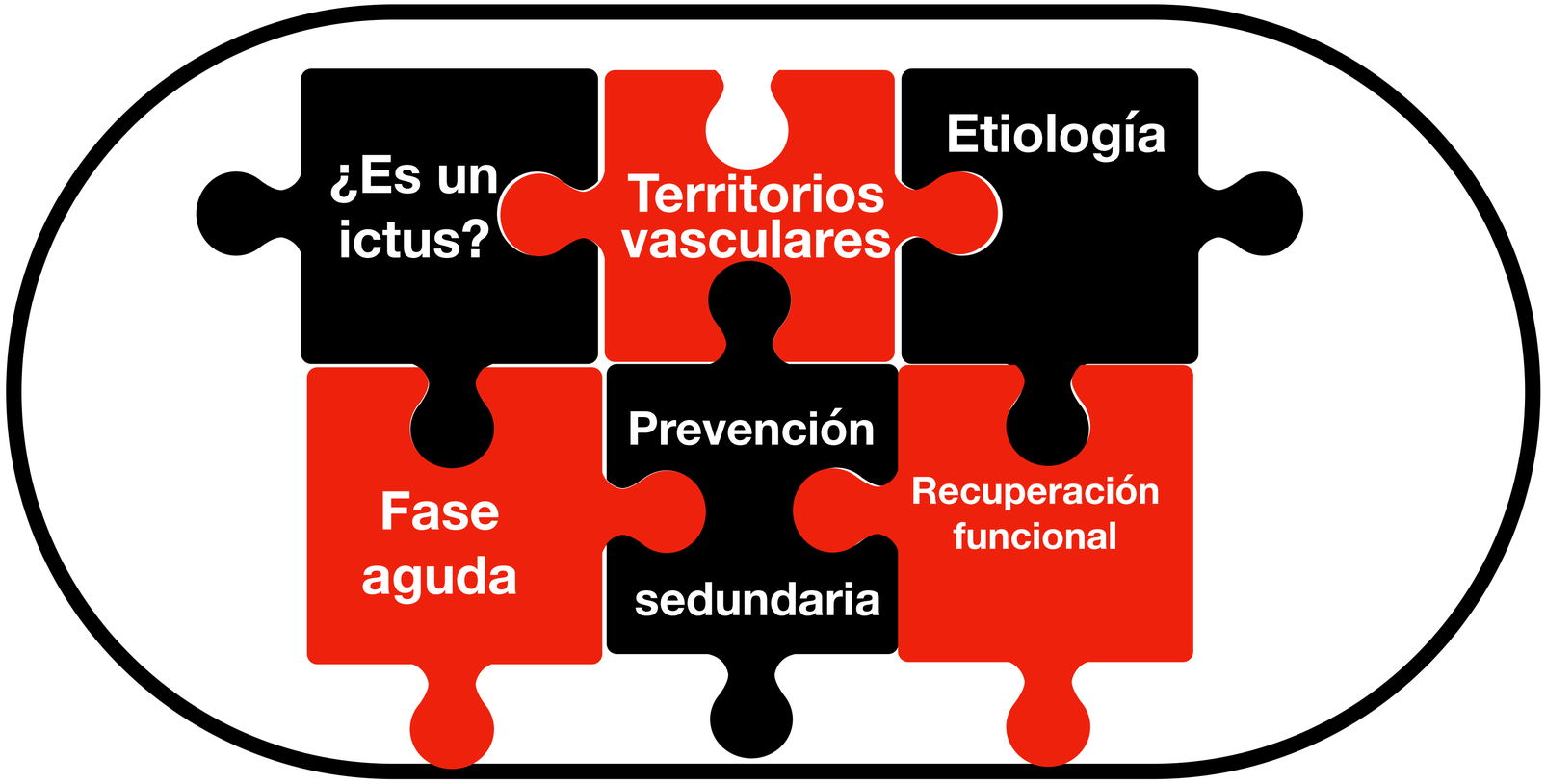
Röentgen



Cajal

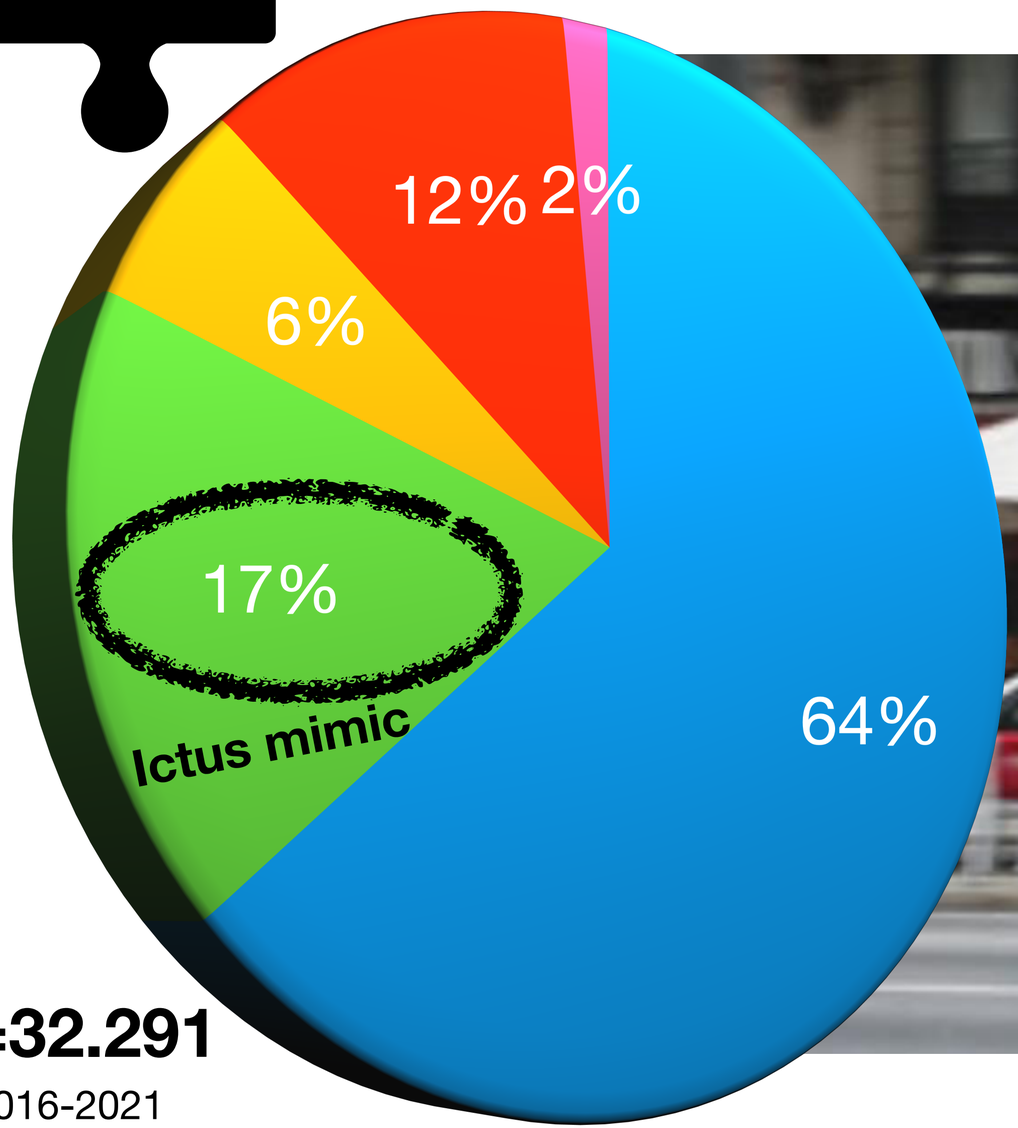
Röentgen

Cajal



aproximación clínica del ictus

¿Es un ictus?



Ictus isquémico
Ictus hemorrágico
Ictus mimic
HSA
AIT

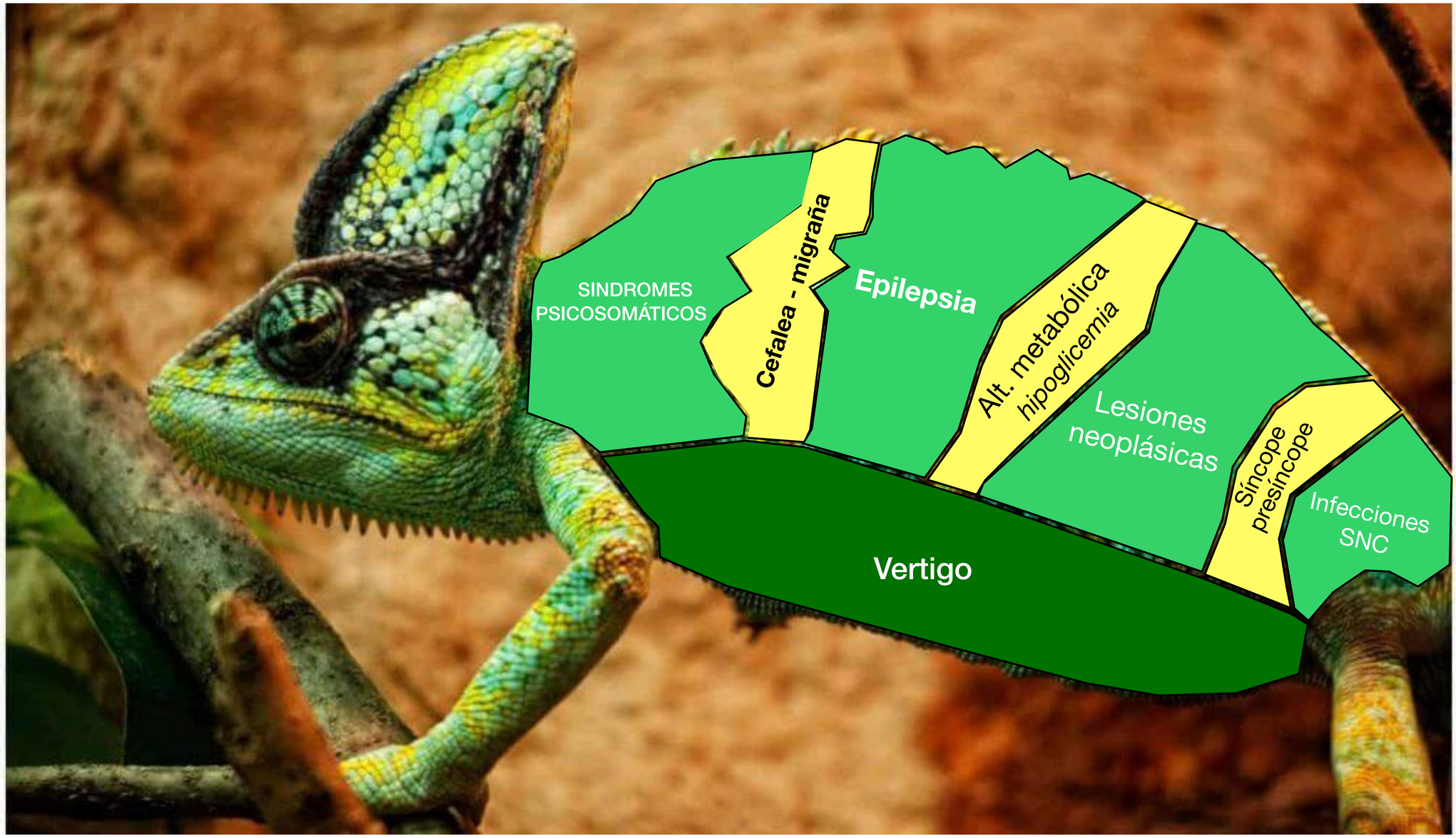
N=32.291

2016-2021

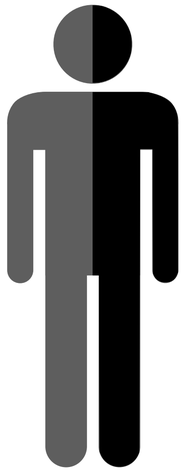
Registre Codi Ictus Catalunya (CICAT)

¿Es un ictus?

¿Es un ictus?


SINDROMES PSICOSOMÁTICOS
Cefalea - migraña
Epilepsia
Alt. metabólica
hipoglicemia
Lesiones neoplásicas
Síncope presíncope
Infecciones SNC
Vertigo

¿Es un ictus?



TRUE STROKE

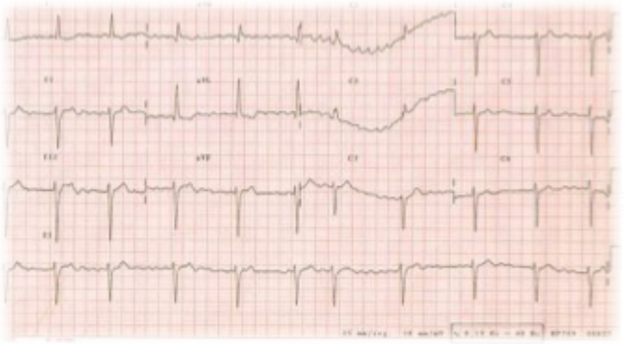
- **The presence of facial paresis, arm drift or abnormal speech increases the likelihood of brain ischemia**
  OR 5,5 (3.3-9.1)

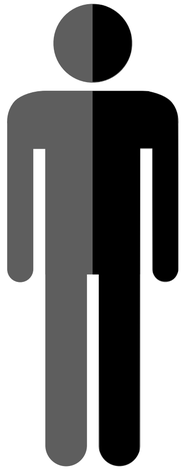
MIMIC STROKE

- Loss of consciousness
- Urinary or fecal incontinence
- Generalized weakness
- Migratory symptoms
- Positive visual symptoms
- Confusion
- Isolated dysarthria, diplopia, tinnitus or vertigo

Goldstein & Simel. JAMA 2005

¿Es un ictus?





¿Es un ictus?

Ictus isquémico vs. ictus hemorrágico

JAMA®

Online article and related content current as of October 1, 2010.

Does This Patient Have a Hemorrhagic Stroke?: Clinical Findings Distinguishing Hemorrhagic Stroke From Ischemic Stroke

Shauna Runchey; Steven McGee

JAMA. 2010;303(22):2280-2286 (doi:10.1001/jama.2010.754)

Table 2. Accuracy of Findings for Diagnosing Hemorrhagic Stroke[a]

Finding	No. of Patients	Hemorrhage, No. (%)	Sensitivity, % (95% CI)	Specificity, % (95% CI)	Positive LR (95% CI)
Risk factors					
Age ≤60 y[35]	1510	237 (16)	50 (43-56)	70 (68-73)	1.7 (1.4-1.9)
Alcohol consumption[10]	178	27 (15)	48 (29-67)	70 (62-77)	1.6 (1-2.5)
Male[16-18,28,35]	3107	635 (20)	57 (53-61)	51 (47-54)	1.2 (1.1-1.3)
Hypertension[10,11,16-18,28,35]	4193	776 (19)	68 (60-75)	40 (33-47)	1.1 (1.0-1.2)
Cigarette smoking[11,28]	1187	216 (18)	38 (22-55)	52 (45-79)	0.79 (0.45-1.4)
Diabetes mellitus[11,13,16,28,29,35]	3866	681 (18)	17 (9-25)	74 (66-81)	0.64 (0.43-0.95)
Prior stroke[17,35]	1622	295 (18)	11 (4-18)	79 (67-91)	0.59 (0.17-2.0)
Hyperlipidemia[10,11,16]	2028	300 (15)	7 (0-15)	78 (68-89)	0.48 (0.2-1.1)
Coronary artery disease[11,16,35]	3420	523 (15)	6 (0-13)	83 (67-100)	0.44 (0.31-0.61)
Atrial fibrillation[11,16,35]	3420	523 (15)	4 (0-7)	90 (89-91)	0.44 (0.25-0.78)
Peripheral artery disease[10,35]	1710	270 (16)	3 (1-5)	91 (86-96)	0.41 (0.2-0.83)
Prior transient ischemic attack[10,11,16,35]	3478	523 (15)	7 (3-11)	79 (75-84)	0.34 (0.18-0.65)
Symptoms					
Seizures accompanying neurologic deficit[11,18,35]	2497	385 (15)	9 (6-12)	98 (97-100)	4.7 (1.6-14)
Vomiting[13,16-18,29,35]	2947	577 (20)	34 (17-52)	93 (90-96)	3.0 (1.7-5.5)
Headache[10,11,13,16-18,29,35]	3974	708 (18)	46 (41-52)	82 (75-89)	2.9 (1.7-4.8)
Loss of consciousness[17]	174	75 (43)	47 (35-58)	82 (74-89)	2.6 (1.6-4.2)
Acute onset of deficit[11]	887	109 (12)	44 (35-53)	32 (29-35)	0.65 (0.52-0.81)
Physical signs					
Kernig sign, Brudzinski sign, or both[29]	50	23 (46)	15 (0-29)	98 (93-100)	8.2 (0.44-150)
Level of consciousness: coma[11,17,18]	1161	223 (19)	35 (19-50)	94 (89-99)	6.2 (3.2-12)
Neck stiffness[17,29]	223	97 (43)	20 (12-28)	97 (93-100)	5.0 (1.9-12.8)
Diastolic blood pressure >110 mm Hg[29]	50	23 (46)	48 (27-68)	89 (77-100)	4.3 (1.4-14)
Level of consciousness: drowsy[11,17,18]	1161	223 (19)	32 (20-44)	82 (69-96)	2.0 (1.0-3.9)
Plantar response: both extensor[10,17]	370	106 (29)	16 (9-23)	92 (89-96)	1.8 (0.99-3.4)
Plantar response: single extensor[10,17]	370	106 (29)	62 (44-81)	39 (27-51)	1 (0.87-1.2)
Hemiparesis[11,16,35]	3420	523 (15)	63 (25-100)	33 (0-66)	0.96 (0.9-1.0)
Plantar response: both flexor[10,17]	370	106 (29)	11 (5-17)	74 (69-80)	0.45 (0.25-0.81)
Level of consciousness: alert[17,18]	274	114 (42)	23 (15-30)	31 (12-51)	0.35 (0.24-0.5)
Cervical bruit[35]	1510	237 (16)	1 (0-2)	93 (91-94)	0.12 (0.03-0.47)

JAMA®

Online article and related content current as of October 1, 2010.

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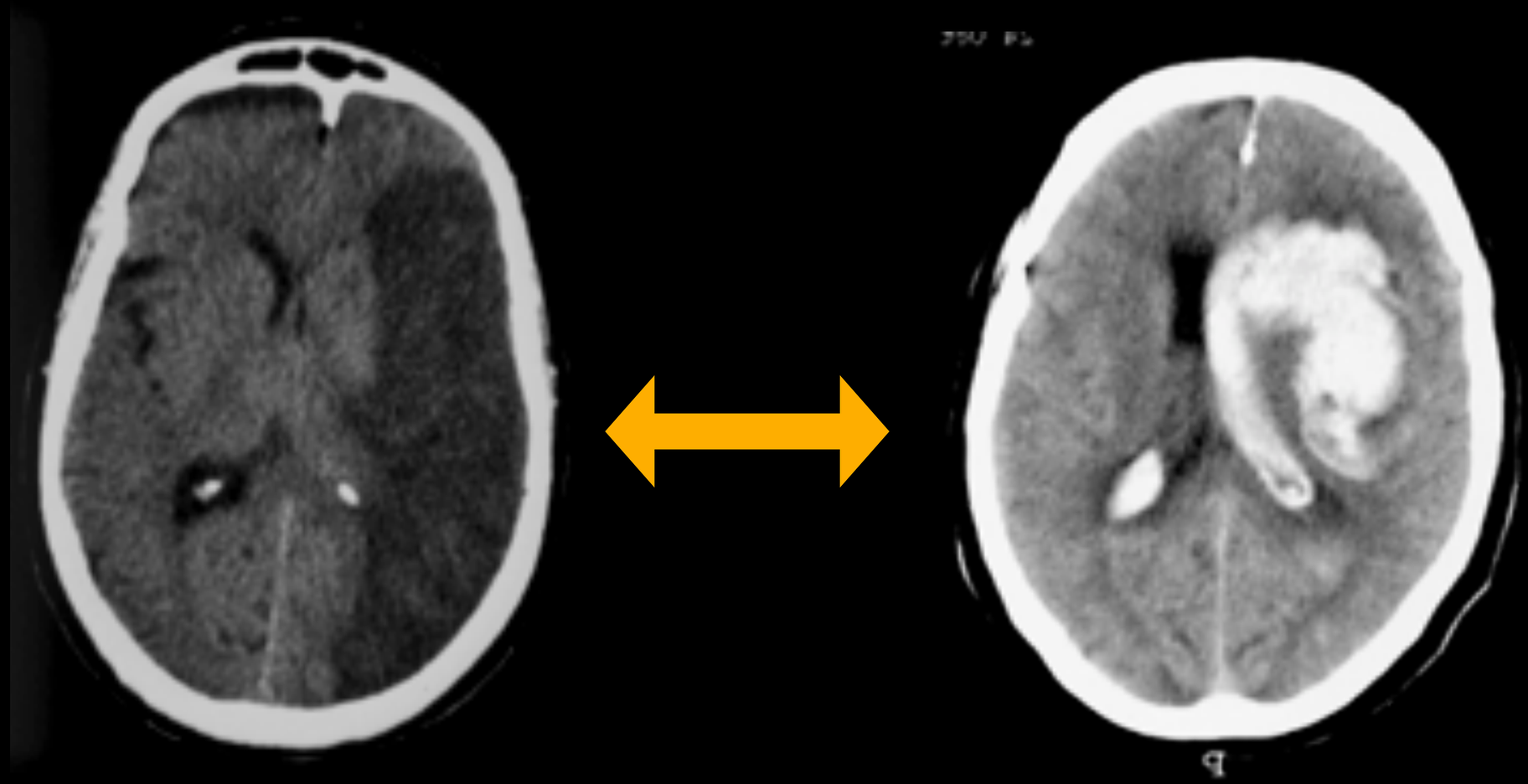
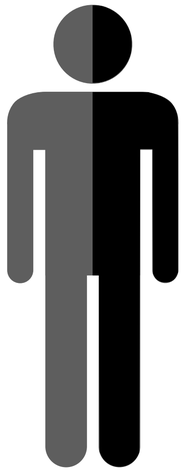


¿Es un ictus?



AIT

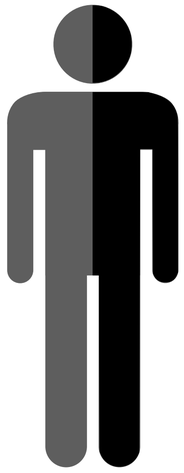
Mayor reto diagnóstico por la transitoriedad de los síntomas

Se debe realizar una prueba de imagen en estos pacientes para poder iniciar el tratamiento de prevención secundaria de forma precoz

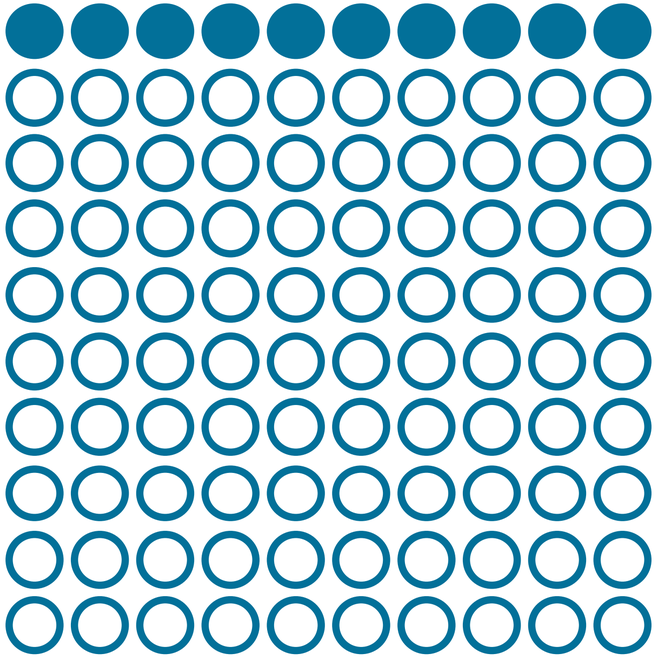
(principal diagnóstico diferencial en neuroimagen: hematoma subdural, angiopatía amilodea y lesiones tumorales)

¿Es un ictus?

AIT



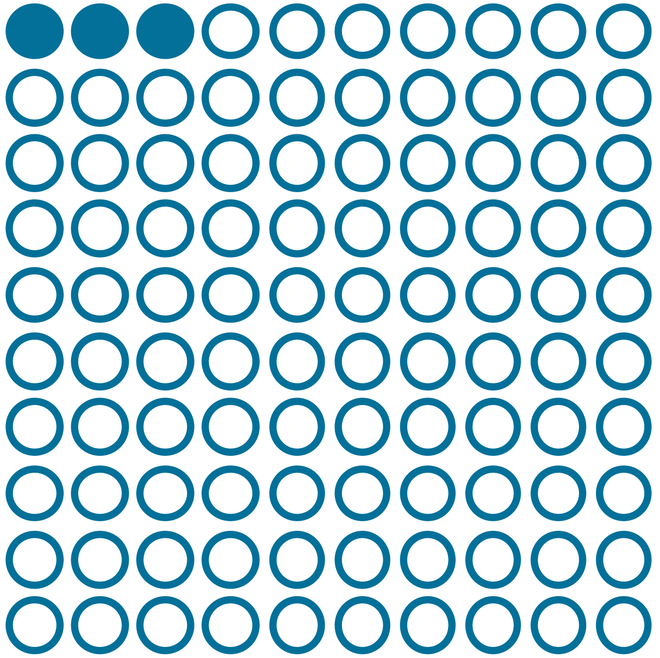
Recurrencia 90 d Sin recurrencia



Año 2000

Johnson et al. *JAMA* 2000

Manejo adecuado

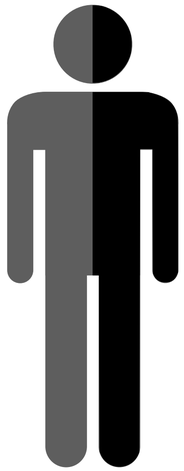


Año 2020

Valls et Purroy. *Cerebrovasc Dis* 2017

¿Es un ictus?

AIT



Guideline

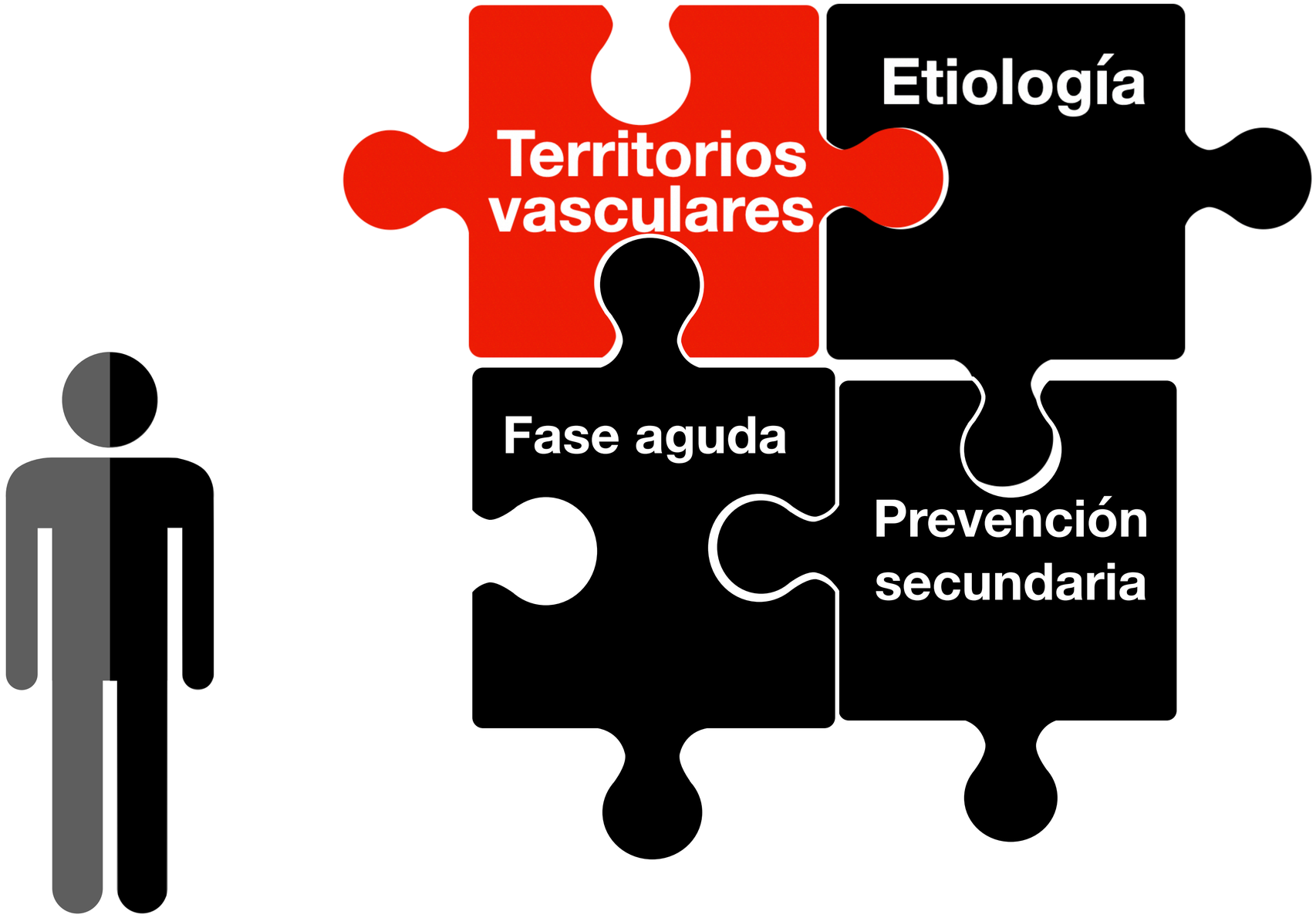
EUROPEAN STROKE JOURNAL

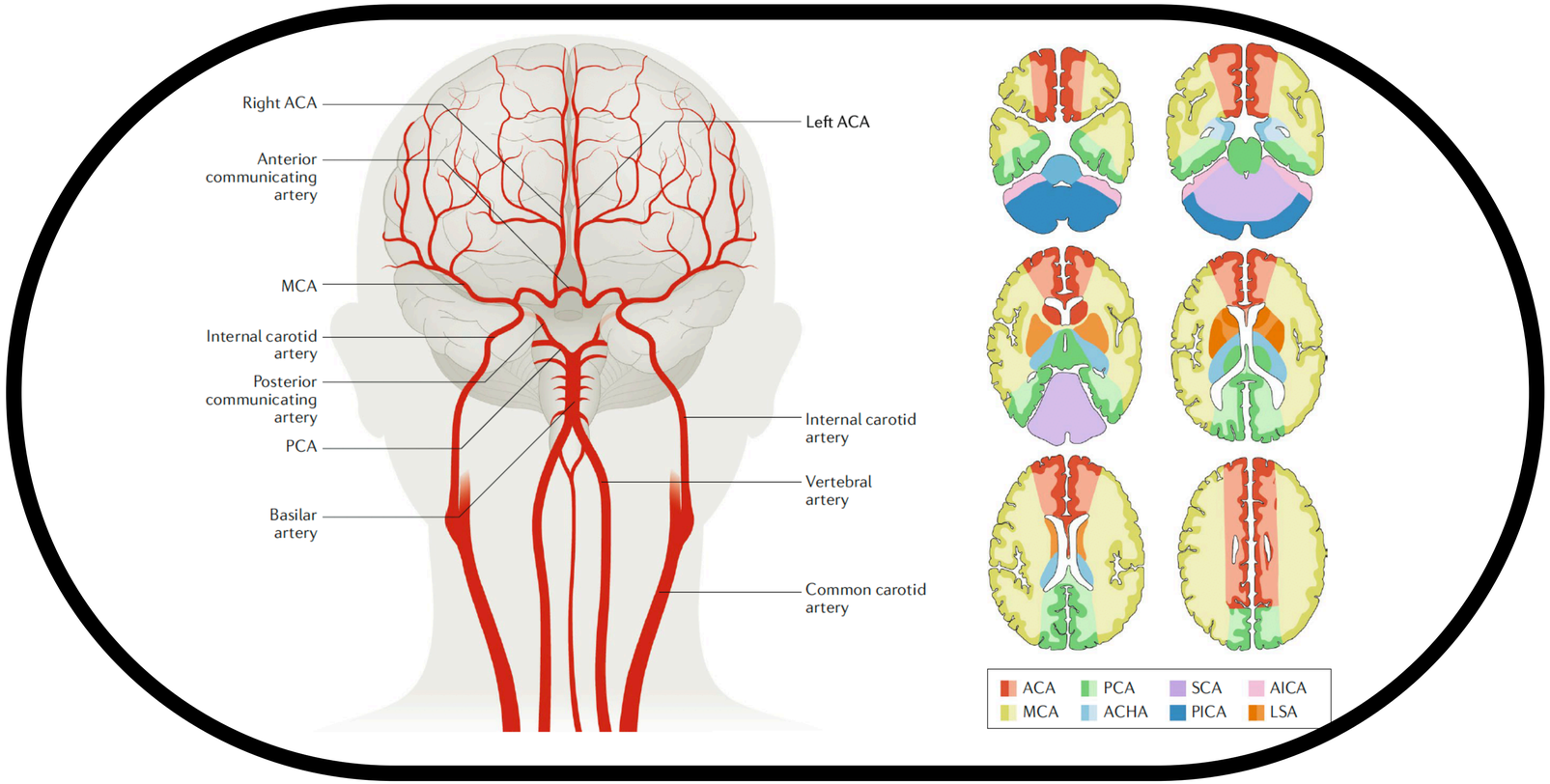
European Stroke Organisation (ESO) guidelines on management of transient ischaemic attack

European Stroke Journal
0(0) 1–24

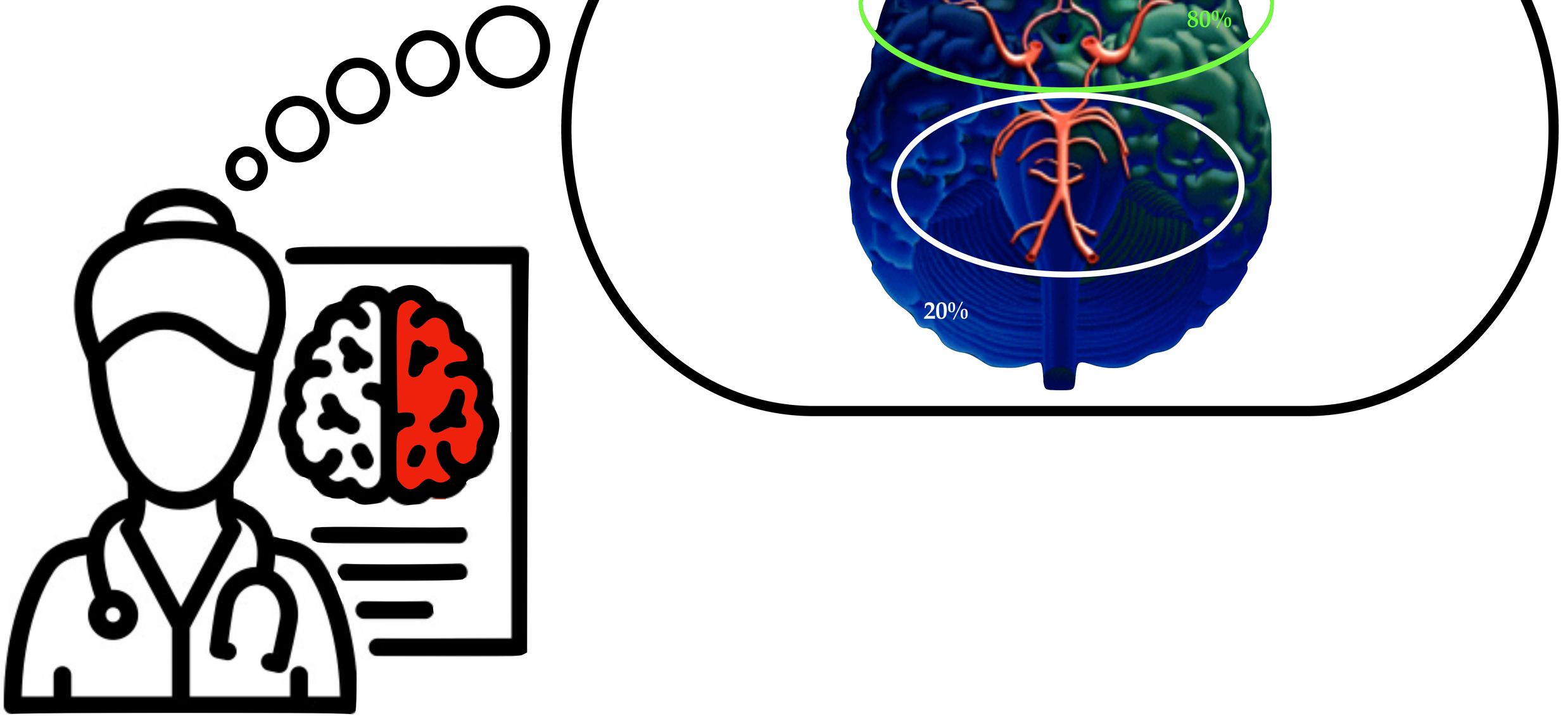
DOI: 10.1177/2396987321992905
journals.sagepub.com/home/eso
SAGE

Ana Catarina Fonseca[1,*], Áine Merwick[2,*], Martin Dennis[3], Julia Ferrari[4], José M Ferro[1], Peter Kelly[5], Avtar Lal[6], Angel Ois[7], Jean Marc Olivot[8] and Francisco Purroy[9]


Territorios vasculares
Etiología
Fase aguda
Prevención secundaria



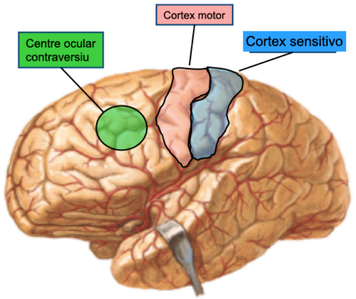
Campbell BCV, De Silva DA, Macleod MR, Coutts SB, Schwamm LH, Davis SM, Donnan GA. Ischaemic stroke. *Nat Rev Dis Primers.* 2019;5:70

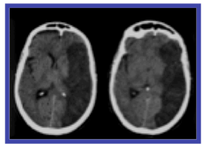

80%
20%

Ictus en territorio de la arteria cerebral media izquierda

Déficit motor y/o sensitivo contraletal

Parálisis de la mirada conjugada: desviación oculocefálica





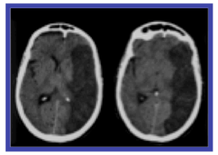
Correlación clínico-anatómica

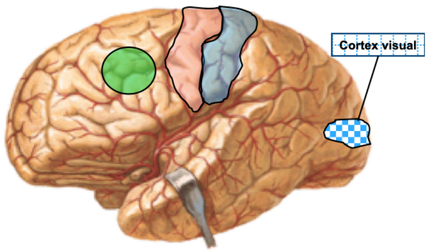
Ictus en territorio de la arteria cerebral media izquierda

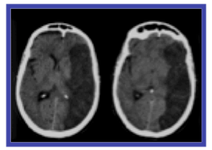
HEMIANOPSIA HOMÓNIMA CONTRALERAL

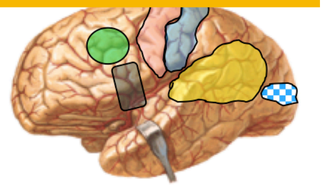
TRASTORNO DEL LENGUAJE: *afasia global, motora, wernicke, …*

Sd de Gertmann: *acalculia, agnosia de dedos, confusión derecha-izquierda*





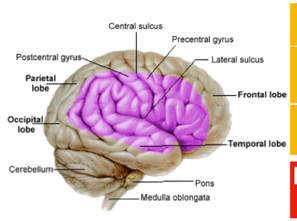




Correlación clínico-anatómica

Ictus en territorio de la arteria cerebral media derecha

Lesión en hemisferio no dominante



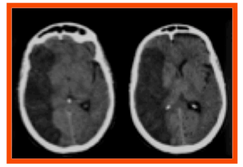
Déficit motor y/o sensitivo contraletal

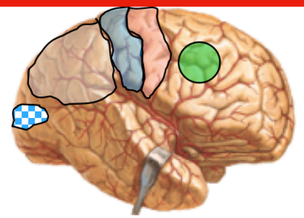
Parálisis de la mirada conjugada: desviación oculocefálica

HEMIANOPSIA HOMÓNIMA CONTRALETERAL

Hemineglegencia, asomatognosia, anosognosia
Dispraxias

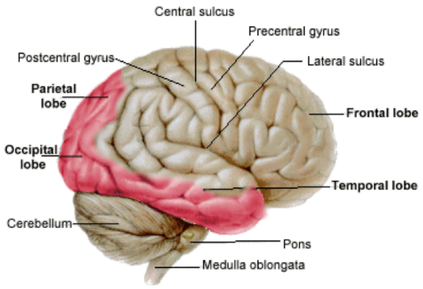
Disartria, *no disfasia o afasia*

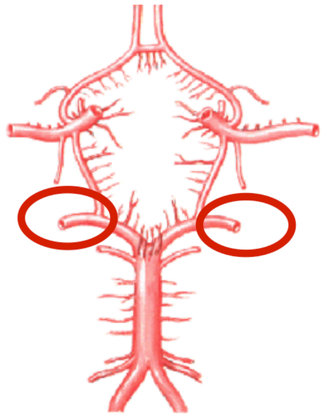




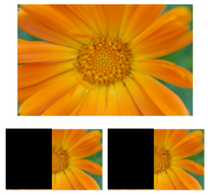
Correlación clínico-anatómica

Ictus en territorio de la arteria cerebral posterior





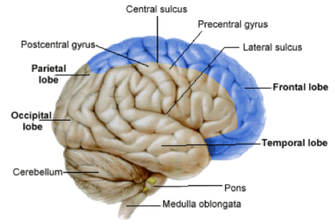
- Hemianopsia/cuadrantanopsia homónima
- Agnosia visual y al color
- Alexia pura, sin agrafia
- Agitación/Sd confusional
- Prosopognosia
- Sd de Balint

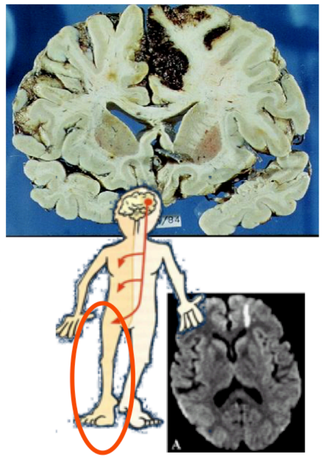


Correlación clínico-anatómica

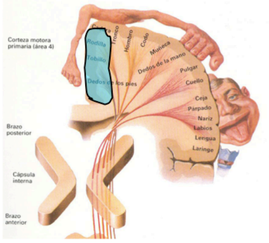
Ictus en territorio de la arteria cerebral anterior

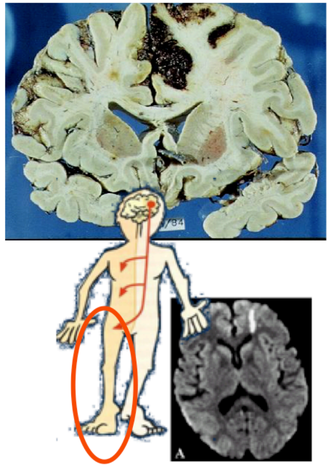
- Paresia desproporcionada con afectación predominante de extremidad inferior





- Incontinencia urinaria
- Reflejo de prensión palmar contralateral
- Abulia
- Apraxia de la marcha

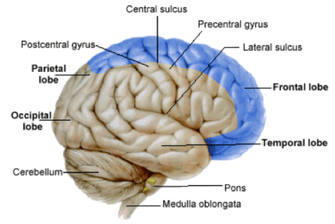


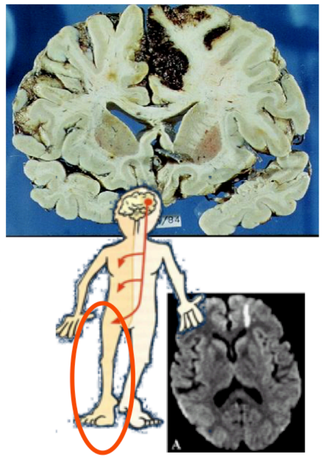


Correlación clínico-anatómica

Ictus en territorio de la arteria cerebral anterior

- Paresia desproporcionada con afectación predominante de extremidad inferior





- Incontinencia urinaria
- Reflejo de prensión palmar contralateral
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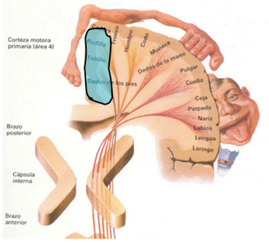
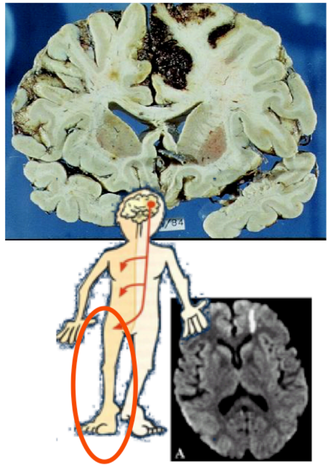
- Apraxia de la marcha



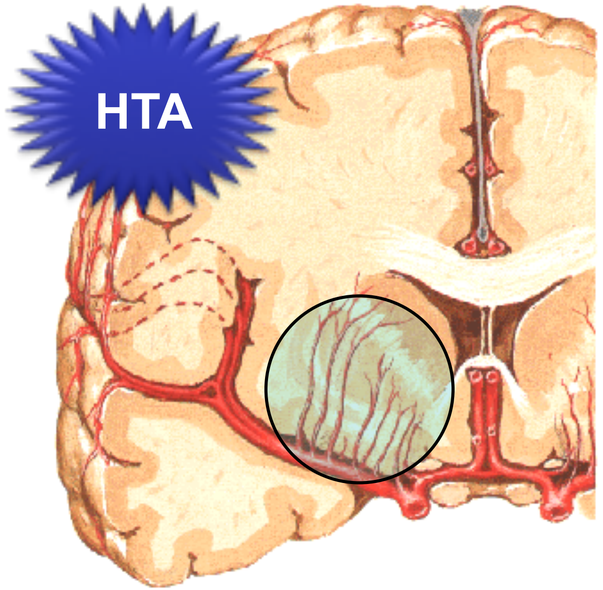


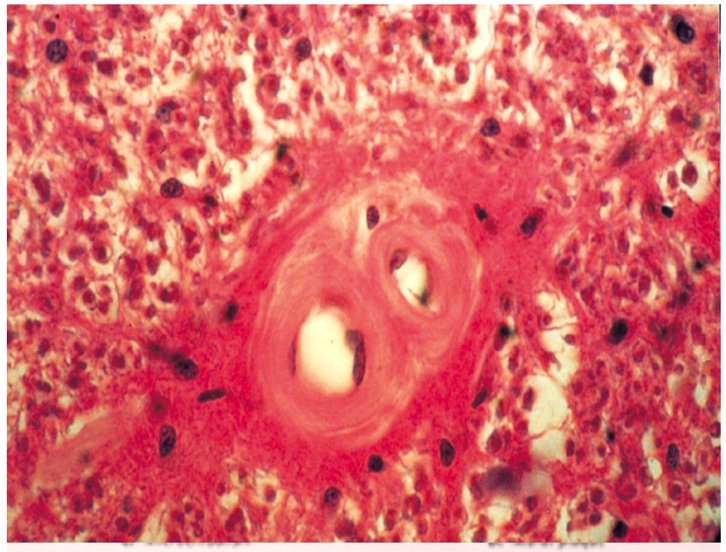
Correlación clínico-anatómica

Ictus en territorio vertebro-basilar

- Afectación bilateral de tractos largos: motores y sensitivos
- Síndromes motores y sensitivos cruzados
- Afectación cerebelosa
- Afectación de pares craneales
- Afectación del nivel de conciencia
- Pérdida de movimientos conjugados de los ojos

Correlació clínico-anatòmica

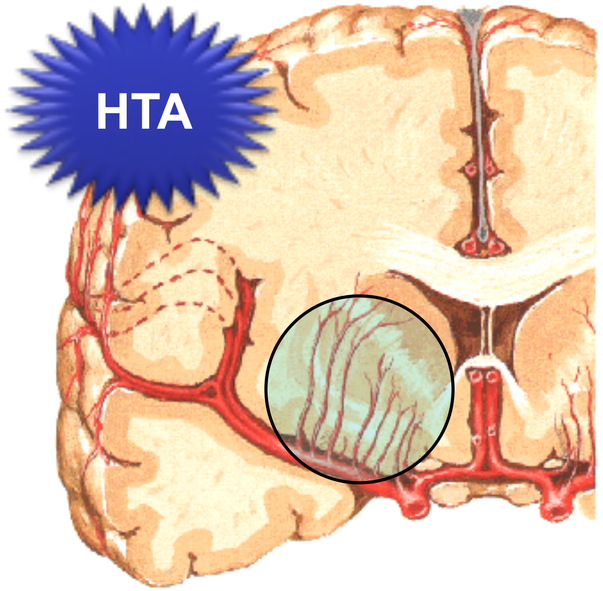




Infartos cerebrales <15 mm

Microateroma - lipohialinosis - necrosis fibrinoide

Pantoni L. Cerebral small vessel disease: From pathogenesis and clinical characteristics to therapeutic challenges. *Lancet Neurol.* 2010;9:689-701

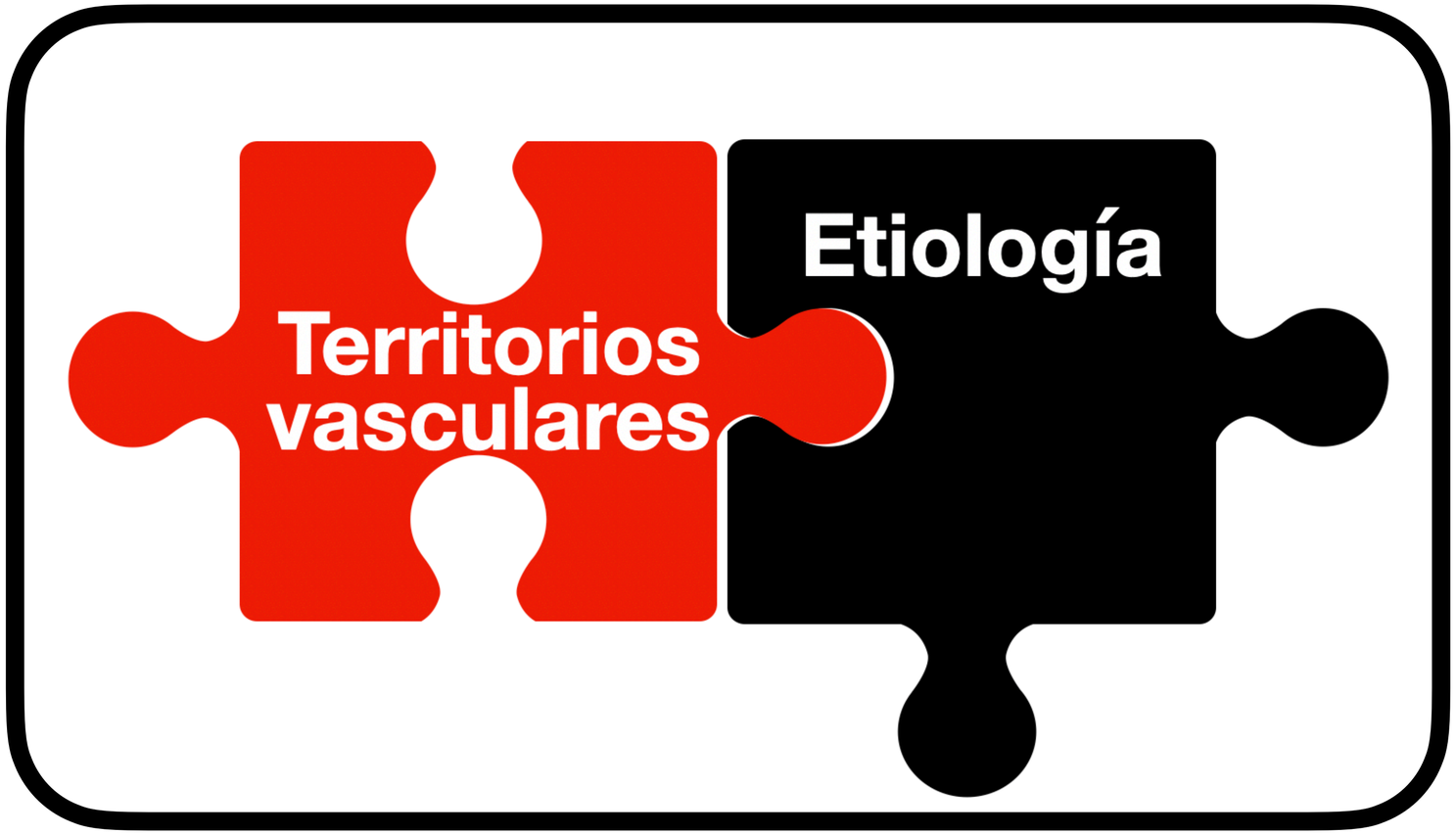


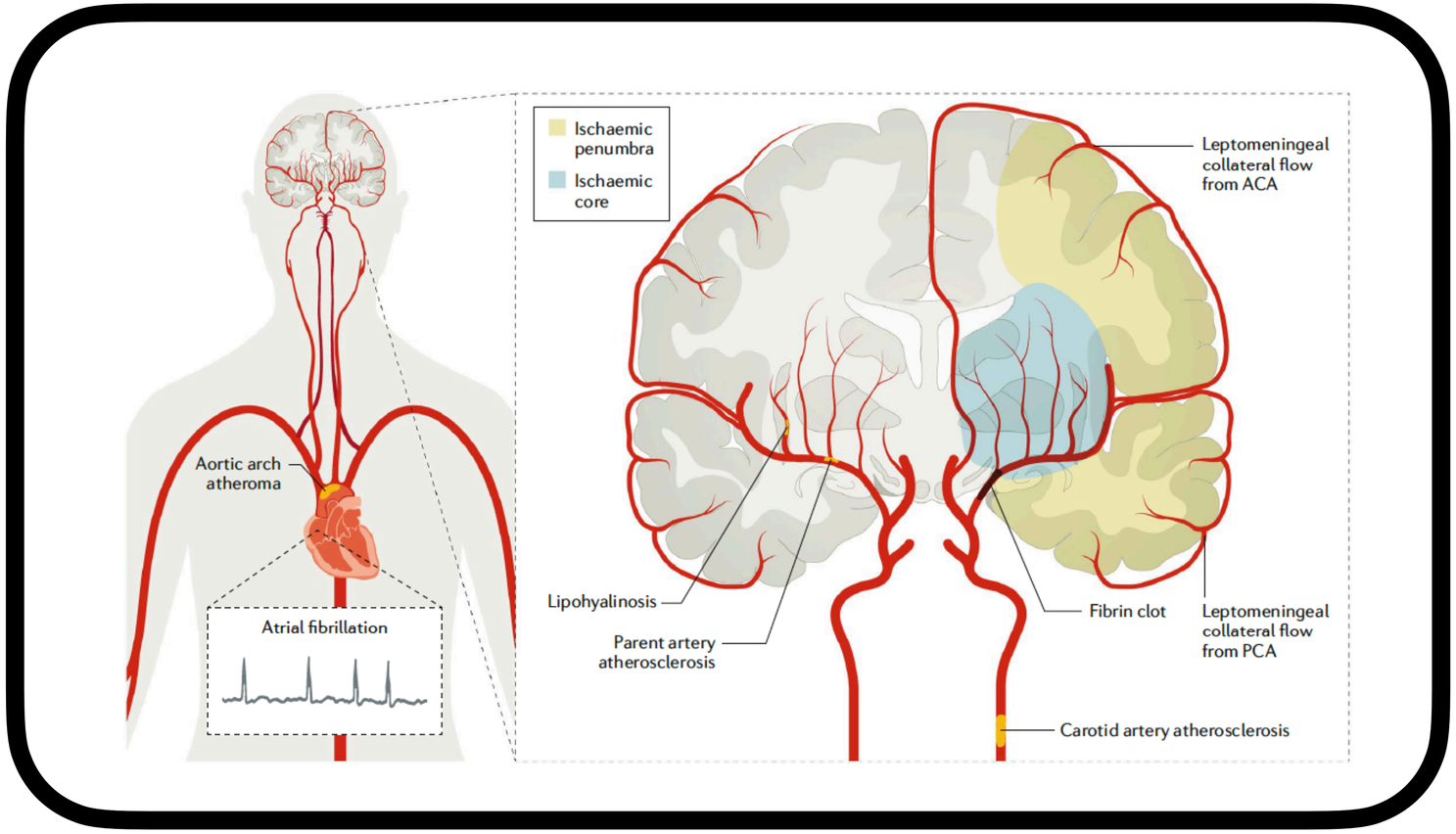
- **Síndrome hemimotor puro**
- **Síndrome hemisensitivo**
- **Síndrome hemisensitivo-motor**
- **Síndrome de hemiparesia atáxica**
- **Síndrome de disartria-mano torpe**

Infartos cerebrales <15 mm

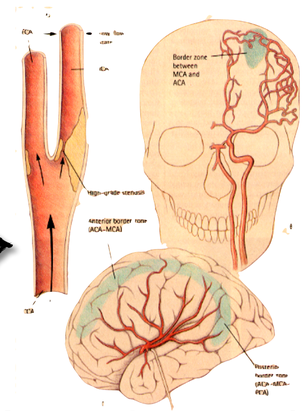
Microateroma - lipohialinosis - necrosis fibrinoide

Pantoni L. Cerebral small vessel disease: From pathogenesis and clinical characteristics to therapeutic challenges. *Lancet Neurol.* 2010;9:689-701

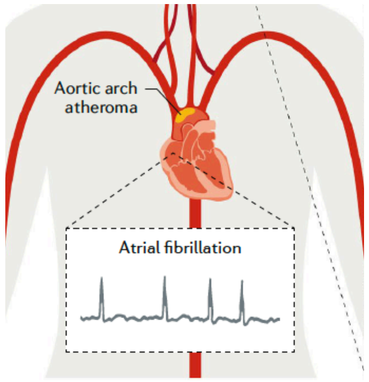

Territorios vasculares
Etiología


Ischaemic penumbra
Ischaemic core
Aortic arch atheroma
Atrial fibrillation
Leptomeningeal collateral flow from ACA
Lipohyalinosis
Parent artery atherosclerosis
Fibrin clot
Leptomeningeal collateral flow from PCA
Carotid artery atherosclerosis

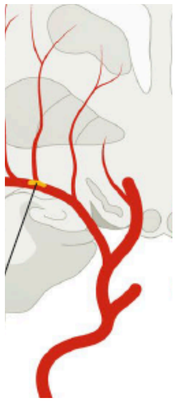
- **Sintomatología cortical:** *déficit campimétrico, negligencia, alteración disfásica/afásica*
- **Déficit motor y/o sensitivo desproporcionado en extremidades**



Ateromatosis extracraneal

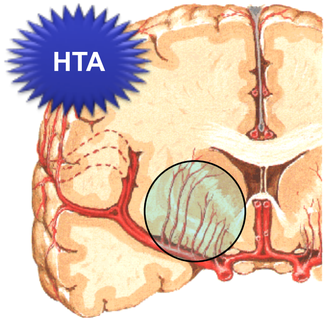


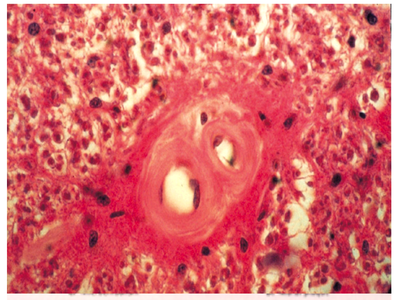
Fuente cadioembólica mayor



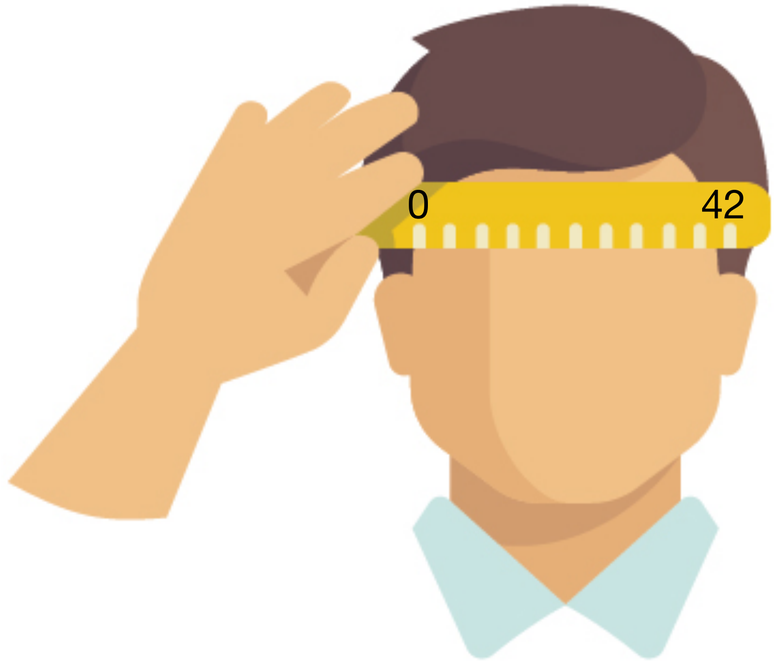
Ateromatosis intracraneal

- **Ausencia de sintomatología cortical**
- **Déficit motor y/o sensitivo proporcionado en extremidades**





Infarto lacunar

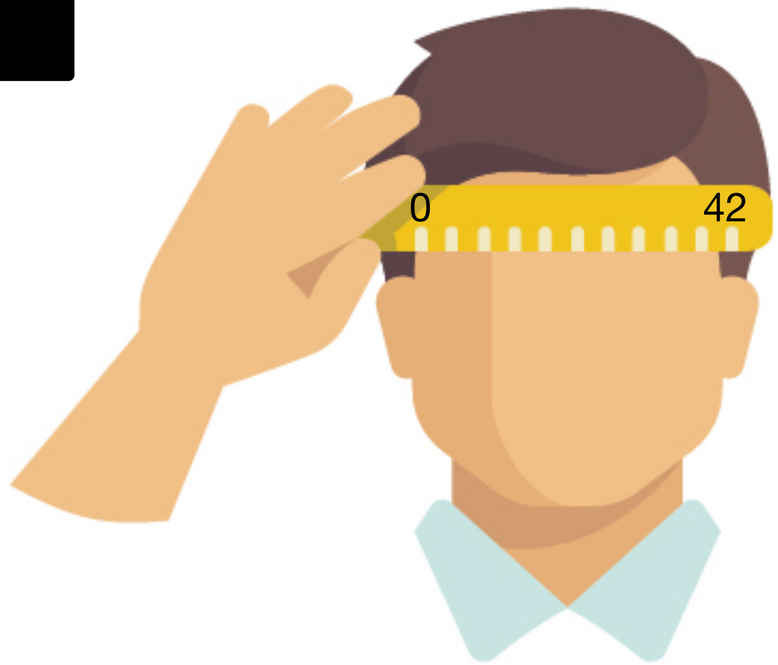


National Institutes of Health Stroke Scale

NIHSS

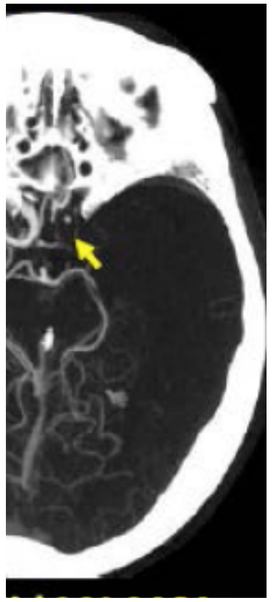
- NIVEL DE CONCIENCIA
- MIRADA CONJUGADA
- CAMPOS VISUALES
- PARESIA FACIAL
- PARESIA EXTREMIDADES SUPERIORES
- PARESIA EXTREMIDADES INFERIORES
- ATAXIA DE LAS EXTREMIDADES
- SENSIBLIDAD
- LENGUAJE
- DISARTRIA
- EXTINCIÓN-NEGLIGENCIA-INATENCIÓN

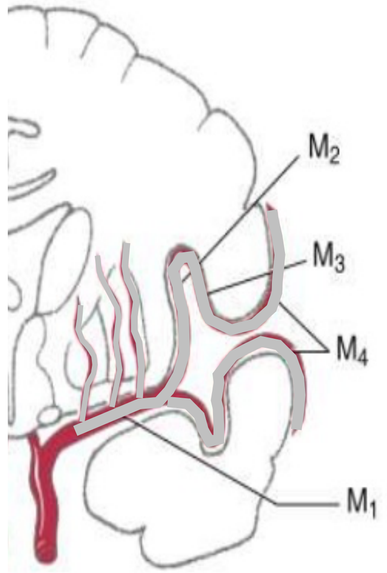
Fase aguda



National Institutes of Health Stroke Scale

NIHSS





oclusión de gran vaso intracraneal

Fischer et al.. NIHSS score and arteriographic findings in acute ischemic stroke.Stroke. 2005; 36:2121–2125.

Heldner et al.. National Institutes of Health stroke scale score and vessel occlusion in 2152 patients with acute ischemic stroke.Stroke. 2013; 44:1153–1157.

Fase aguda

CÓDIGO ICTUS

ESCALA RACE

PARESIA HEMICUERPO IZQUIERDO		PARESIA HEMICUERPO DERECHO / AFASIA	
Paresia facial izquierda:		**Paresia facial derecha:**	
Ausente	0	Ausente	0
Ligera	1	Ligera	1
Moderada/Severa	2	Moderada/Severa	2
Paresia del brazo izquierdo:		**Paresia del brazo derecho:**	
Ausente/Ligera (>10seg)	0	Ausente/Ligera (>10seg)	0
Moderada (<10seg)	1	Moderada (<10seg)	1
Severa (no levanta)	2	Severa (no levanta)	2
Paresia de la pierna izquierda:		**Paresia de la pierna derecha:**	
Ausente/Ligera (>5seg)	0	Ausente/Ligera (>5seg)	0
Moderada (<5seg)	1	Moderada (<5seg)	1
Severa (no levanta)	2	Severa (no levanta)	2
Desviación oculo-cefálica a la derecha		**Desviación oculo-cefálica a la izquierda**	
Ausente	0	Ausente	0
Presente	1	Presente	1
Agnosia		**Afasia**	
Ausente	0	Obedece 2 órdenes	0
Asomatognosia o anosognosia	1	Obedece 1 orden	1
Asomatognosia y anosognosia	2	No obedece ninguna orden	2
TOTAL		**TOTAL**	

Puntuación de 0 – 9

A mayor puntuación, mayor gravedad del ictus

Pacientes con RACE ≥5 tienen una alta probabilidad de tener una oclusión de un gran vaso cerebral

Perez de la Ossa N,, et al. Design and validation of a prehospital stroke scale to predict large arterial occlusion: The rapid arterial occlusion evaluation scale. Stroke. 2014;45:87-91

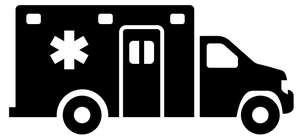
THE LANCET Neurology

ARTICLES | VOLUME 20, ISSUE 3, P213-221, MARCH 01, 2021

Comparison of eight prehospital stroke scales to detect intracranial large-vessel occlusion in suspected stroke (PRESTO): a prospective observational study

Martijne H C Duvekot, MD • Esmee Venema, MD • Anouk D Rozeman, MD • Walid Moudrous, MD • Frédérique H Vermeij, MD • Marileen Biekart, MD • et al. Show all authors • Show footnotes

Fase aguda



RAPID +

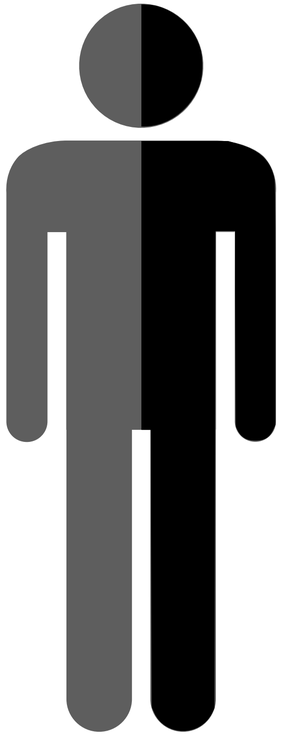
ON

RANDOM -

ON

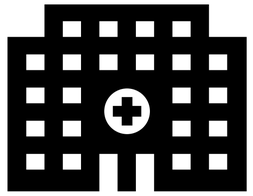
RACE>4

OFF



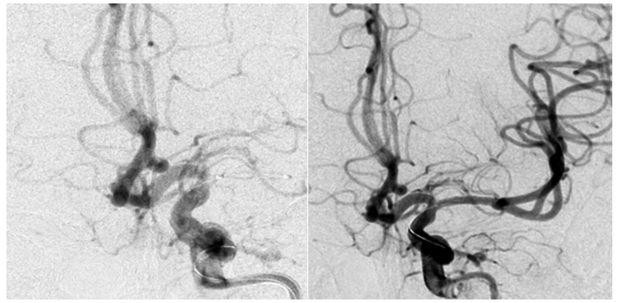
PACIENTE
SOSPECHA ICTUS

PREAVISO



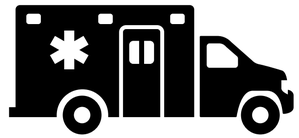
Baja sospecha
oclusión intracraneal

activado



no activado

Fase aguda



RAPID +

ON

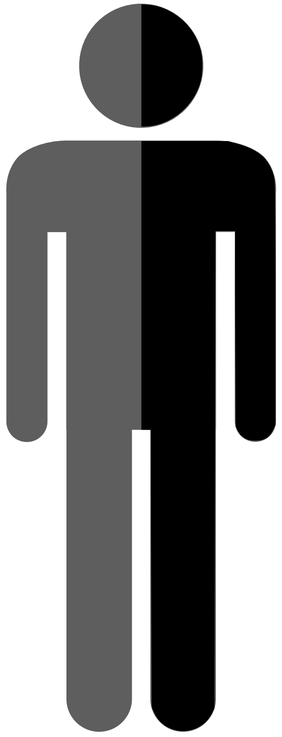
RANDOM -

ON

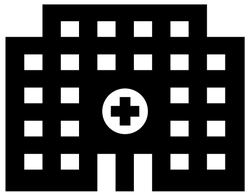
RACE>4

ON

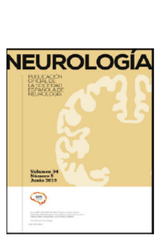
PREAVISO



PACIENTE
SOSPECHA ICTUS



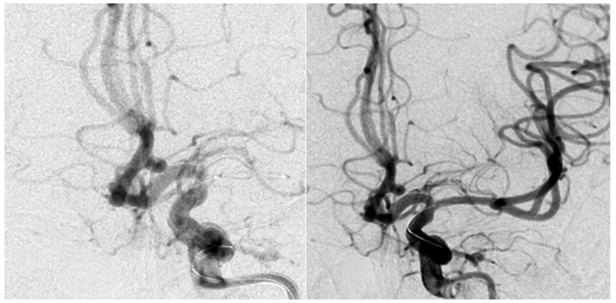
Alta sospecha oclusión intracraneal



La influencia de la gestión organizativa en el tiempo puerta-aguja del tratamiento fibrinolítico

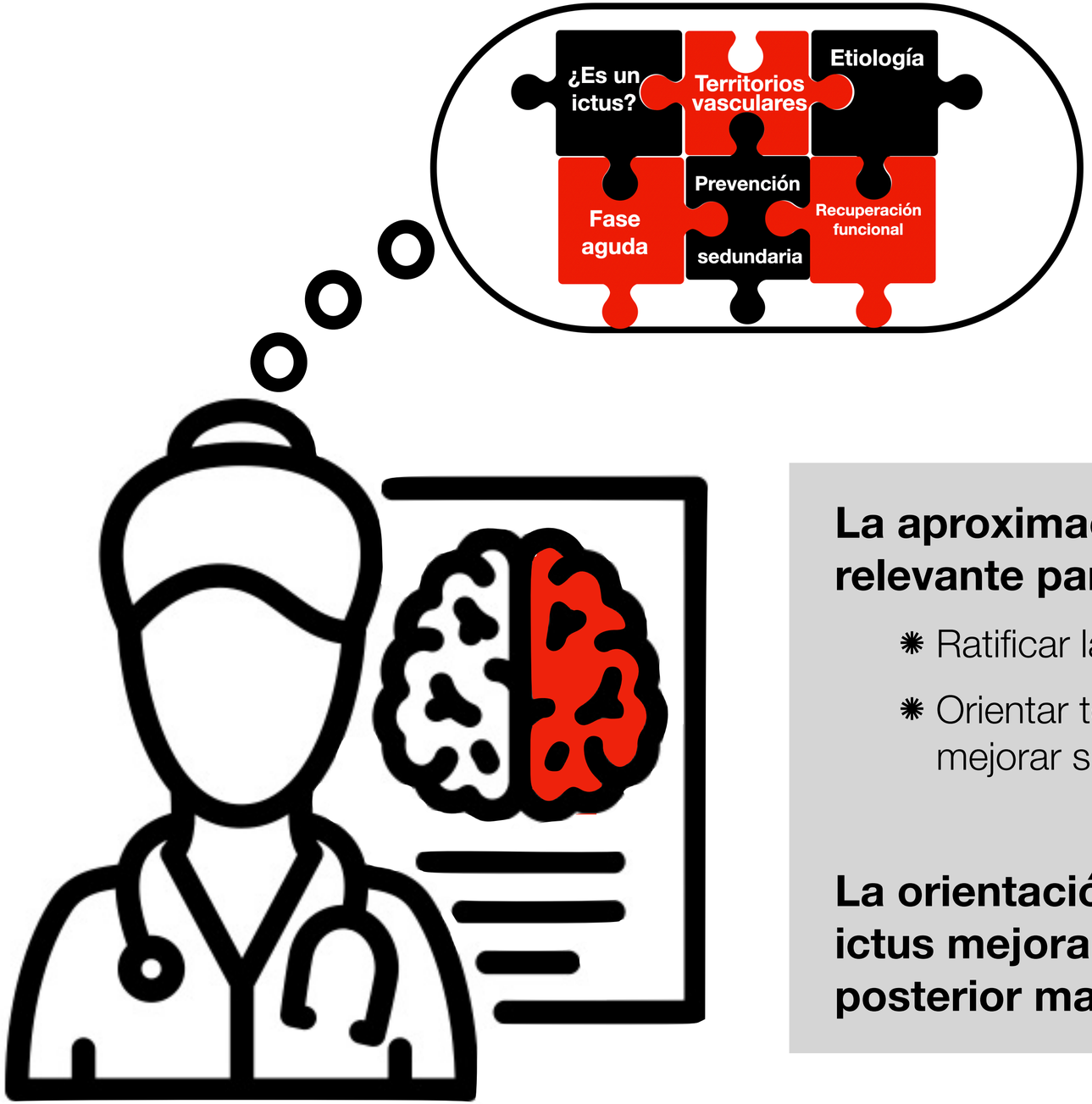
M. Vicente-Pascual[a], A. Quilez[a], M.P. Gil[a], C. González-Mingot[a], D. Vázquez-Justes[a], G. Mauri-Capdevila[a], J. Sanahuja[a], C. García-Vázquez[b] y F. Purroy[a,b,*]

activado



activado

aproximación clínica del ictus



La aproximación clínica precoz del paciente con ictus es relevante para:

- Ratificar la sospecha incial de ictus
- Orientar territorialmente el ictus para establecer su etiología y mejorar su estrategia terapéutica

La orientación pre-hospitalaria de la gravedad inicial del ictus mejora la calidad en la respuesta al *preaviso* y el posterior manejo del paciente en el ámbito hospitalario