# NEUROSYPHILIS AND HIV: A CHALLENGE

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# Patient XY

- male
- age: 45 years-old
- urban environment
- education: university studies
- risk factors for HIV infection / STD:  unsafe sexual intercourses
- denies toxics abuse
- lifestyle: active, healthy diet
- BMI 27 $kg/m^2$

Personal history:  4-5 months before – hard chancre? + inguinal lymphadenopathy – neglected

Family history:  not significant

# Medical history

- abrupt onset with:
- focal seizures + right limbs motor deficit (3-4 episodes / day)
- headache
- motor aphasia
- fever 38.3°C

short duration of each episode - several minutes, with complete remission of symptoms between episodes.

→ presents to Neurology Department

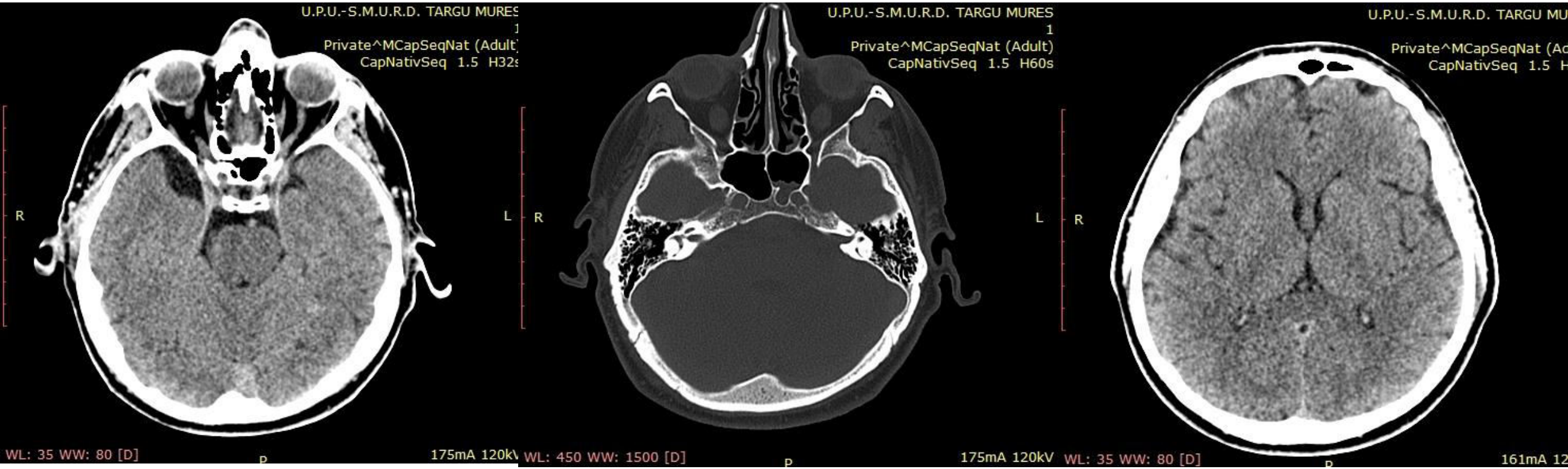
<u>Neurological exam:</u>

- right facial palsy (central type)
- right hemiparesis – grade 4
- positive Babinski sign (right lower limb)
- motor aphasia – Kaplan scale - 3 points
- meningeal syndrome - absent

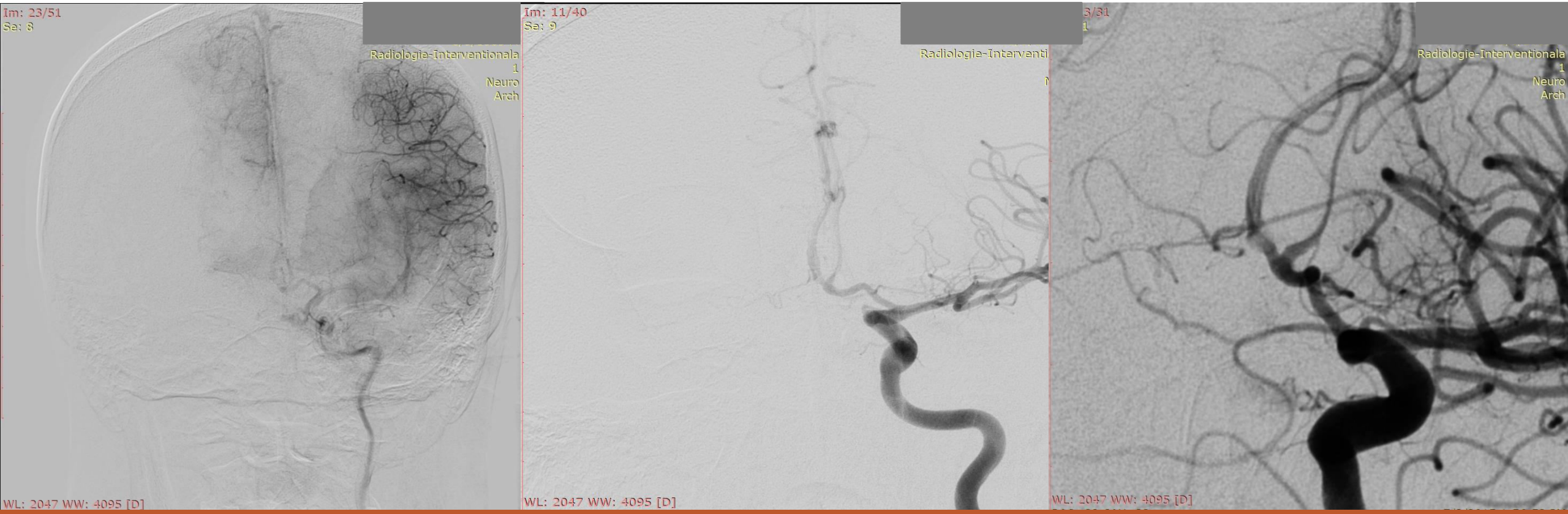
# Laboratory & Imaging

- WBC 6800/cmm, PLT 210 000/cmm
- cholesterol 166 mg/dL, tryglicerides – 95 mg/dL
- anti-cardiolipin Ab, anti-ds DNA Ab, Antinuclear Ab – negative
- EEG: sharp theta waves in the frontal and centro-temporal derivations – irritative pattern
- Doppler US exam of carotid and vertebrobasilar arteries: no atheromatous plaques
- Cardiologic exam – ECG, cardiac US – normal , BP: 145/90 mmHg
- Chest X-ray: negative
- Cerebral CT scan (contrast-enhanced): negative
- Cerebral angiography: **suspicion of arterial dissection – left ACA**
- **VDRL – positive, TPHA – positive, anti-Treponema pallidum IgM 6,12 RU/ml (positive), IgM+IgG 3,97 RU/ml (ELISA)**

# Cerebral CT scan



# Cerebral angiography



# Laboratory & Imaging

→ referred to the Department of Infectious Diseases:

- **Anti-HIV Ab + Ag (ELISA 1 &2 Combo, WB): positive**

**- CD4+ T-lymphocytes 398 cells/mm$^3$, CD8+ T-lymphocytes 1090 cells/mm$^3$, CD4+ / CD8+ T-cells 0,37**

**- HIV-RNA plasma VL – 121 763 copies/mL**

- HBsAg – negative, **anti-HBc total Ab positive**, Ac anti-HBs positive, Hbe Ag negative, Anti-Hbe Ab positive, anti-HCV Ab nonreactive

- Anti-Toxoplasma gondii IgG Ab positive, IgM – nonreactive

- Anti-CMV IgG positive, IgM nonreactive

- oral swab – *Candida albicans*

# Laboratory & Imaging

CSF exam:

- clear
- Pandy reaction: ++/+++
- 150 ly/µL,
- CSF glucose 41 mg/dL (serum glucose 82 mg/dL)
- CSF protein: 88 mg/dL
- bacteriological / mycological exams: negative
- AFB stain / cultures – Lowenstein medium – negative
- **Total anti-Treponema pallidum Ab (ELISA) – positive, CSF-VDRL – positive, CSF-TPHA - positive**

# Diagnostic challenges

Transient ischemic attack - **ALTHOUGH**:

- young patient, without risk factors for stroke

- no metabolic disorders (N cholesterol, triglycerides, glycemia)

- no cardiac condition (except  borderline BP values)

Left ACA dissection → infectious endarteritis? → neurosyphilis suspicion

Lab confirmation of syphilis → search for other possible STDs / HIV

# Diagnosis & management

**Positive Dg:**

- HIV infection – clinic-immunological stage B2
- Meningovascular syphilis (probably secondary syphilis)
- Recurrent transient ischemic attacks
- Recurrent focal motor epileptic seizures
- Left ACA dissection ?
- Oral candidiasis
- Arterial hypertension

**Treatment:** (interdisciplinary team: neurologist + STD specialist + infectious diseases physician)

- iv Penicillin G 14 days, followed by benzathine-penicillin for 3 weeks.
- HAART: TDF + FTC + DRV / RTV (no drug-drug interactions)
- anticonvulsant medication: oral Levetiracetam
- initially: anticoagulant – s. cut. LMWH, depletion- iv Furosemid
- oral Aspirin, oral Enalapril

# Outcome & Conclusions

- clinical outcome: favorable
- good tolerability of ARVT
- continuous monitoring by neurologist / dermatologist / infectious diseases
- 3-moths – follow-up: October 2015

**→ A complex neurological symptomatology → TIA in young patient, with no risk factors for cerebro-vascular disease (secondary to infectious arteritis) → lead to a surprising dg of neurosyphilis and an underlying HIV infection.**