RĪGA STRADIŅŠ UNIVERSITY

ANNO 1910
PAULS STRADINS
CLINICAL UNIVERSITY HOSPITAL

CASE PRESENTATION

Kārlis Rācenis MD - Latvia

- Patient – men, 32-years-old

- Admitted to the hospital at 12.09.16 due to kidney biopsy – **no complains**

21.07 – 29.07.2016

- **Admitted to the hospital**
- **Acute kidney injury**
  - **use of NSAIDs *T.Ibuprofeni* 800-2000 mg, 3 weeks**
  - **arterial hypertension (BP – 210/100 mmHg)**

July – September

- **BP with treatment – 140/90 mmHg**
- **Over the months**
  - **Creatinine - 326 μmol/l (62-115)**
  - **GFR (MDRD) – 19 ml/min**
  - **Ca – 3,5 mmol/l (2,08-2,65)**

Medical history I

- **Mental disease since he was 14/15 years old**
- **During childhood – pneumonia**
- **Every day medication:**
  - ***T.Pregabalini 75 mg qd***
  - ***T.Quetiapini 25 mg qd***
  - ***T.Tianeptini 12,5 mg qd***
  - ***T.Clonazepami 2 mg qd***
  - ***T.Amlodipini 10 mg qd***
  - ***T.Moxonidini 0,4 mg bid***
  - ***T.Bisoprololi 5 mg qd***

https://wellcomeimages.org/indexplus/image/V0011947.html

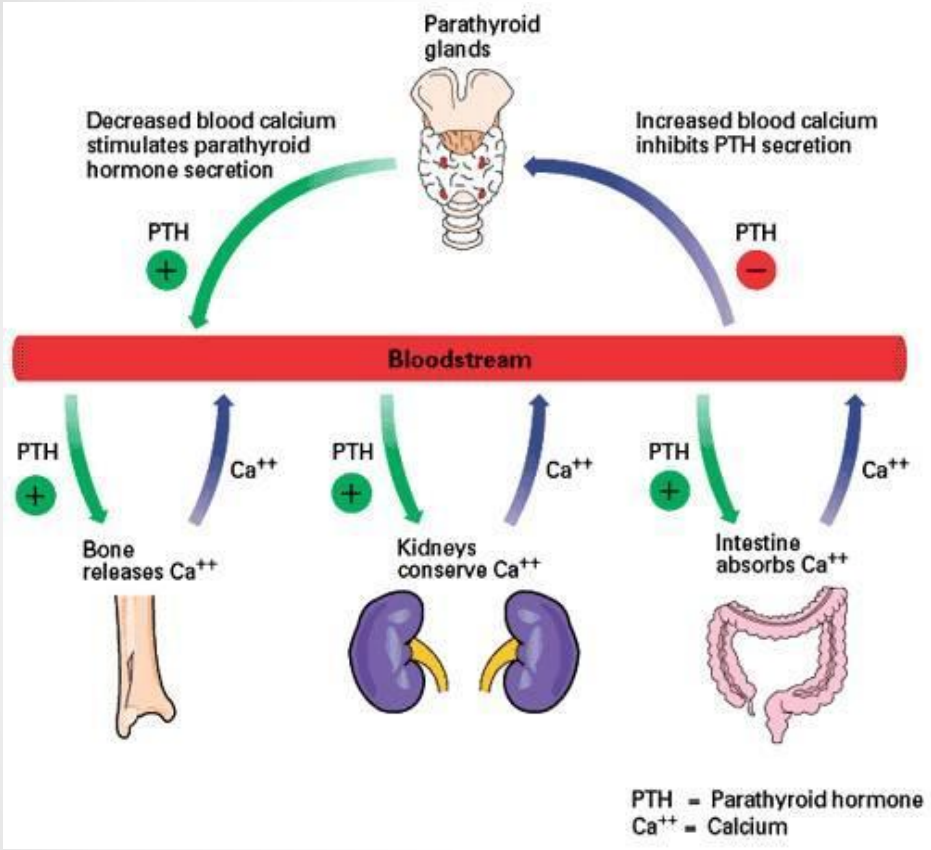
13.09.2016

Creatinine - 320 μmol/l (62-115)

GFR (MDRD) – 20 ml/min

Ca – 3,9 mmol/l (2,08-2,65)

Thoughts?



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Increased bone resorption

- Malignancy (lung cancer, myeloma, lymphoma)?
- Paget disease?
- Primary hyperparathyroidism (sporadic, familial, MEN1, MEN2)?
- Familial hypocalciuric hypercalcemia?
- Lithium?
- Other?

Increased intestinal absorption

- Milk-alkali syndrome
- Granulomatous disease (tuberculosis, sarcoidosis, leprosy)
- Vitamin D intoxication

Decreased renal excretion

- AKI?
- Pheochromocytoma?
- Thiazide diuretics?
- Other?

Further investigation I

Biochemical analysis		
Alpha amylase	58	30 - 118 U/l
Creatinine kinase	63	32 – 294 U/L
LDH	188	208 – 378 U/L
CRO	0,0	0 – 5 mg/L
Glucose	5,7	4,1 – 5,9mmol/l
Creatinine	**320**	**44 - 97 µmol/ml**
GFR (MDRD)	**20**	**ml/min/1,73m^2**
Total bilirubin	12,4	5,1 – 20,5 µmol/ml
BUN	**13,1**	**1,8 – 7,1 mmol/L**
K	4,1	3.5 - 5.5 mmol/l
Na	137,6	136 – 146 mmol/l
Ca	**3,90**	**2,08 – 2,65 mmol/l**
P	1,5	0,9 – 1,5 mmol/l
Alkaline phosphatase	77	45 – 129 U/L
FT3	3,29	2,3 – 4,2 pg/ml
FT4	1,26	0,89 – 1,76 ng/ml
PTH	14,5	12 – 72 pg/ml
Total protein	69	64 – 83 g/l
Albumin	36,1	37 – 55 g/l

Blood gas analysis		
pH	7,505	7,336 – 7,438
pCO2	34,5	35,7 – 45,7 mmHg
pO2	112.5	77,2 – 97,2 mmHg
Ca (ionised)	**1,81**	**1,15 – 1,27 mmol/l**
SO_2	98,5%	

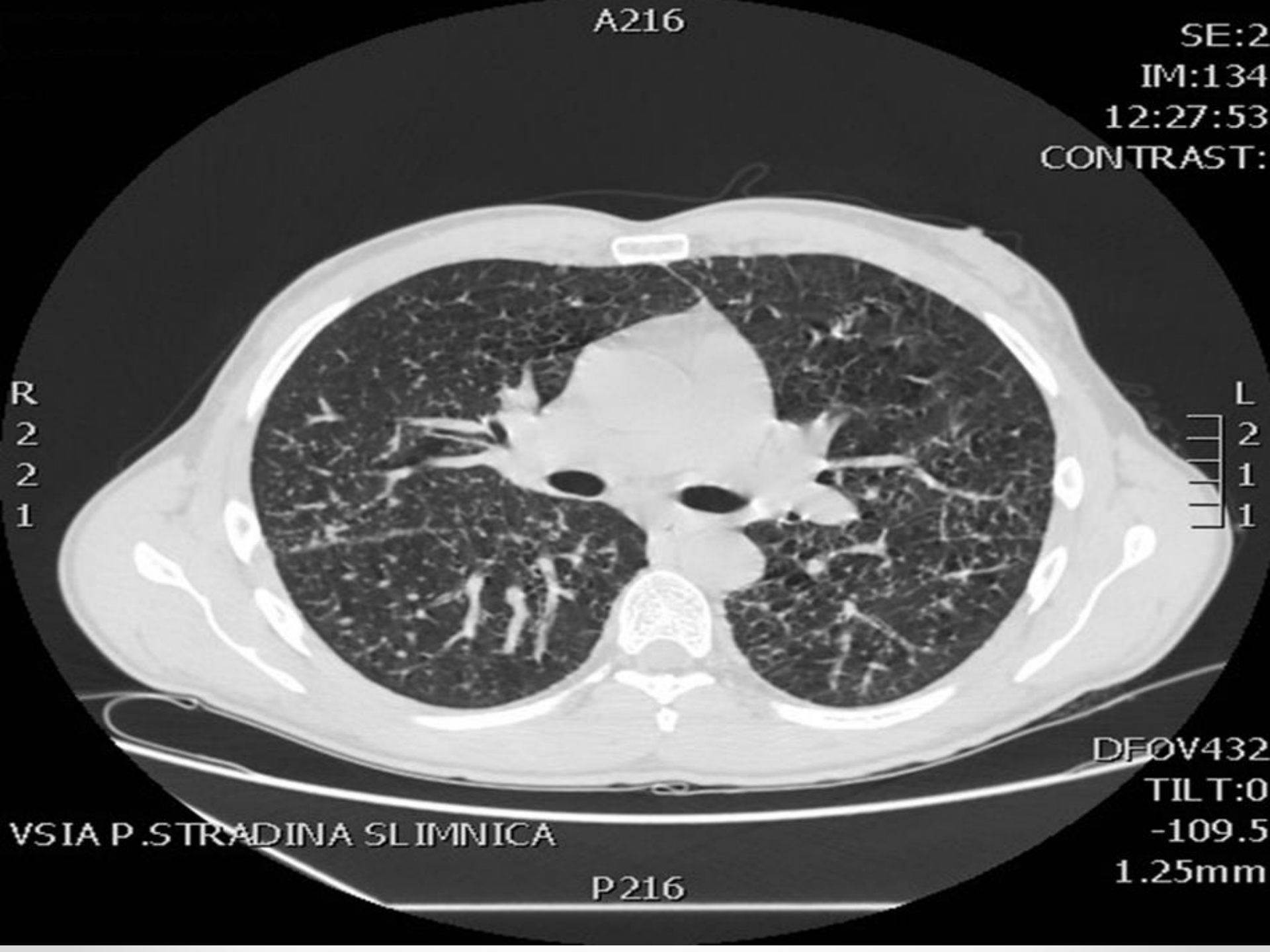
Urine analysis		
24 hour urine amount	**7,1 l**	
Urine calcium	**27,76**	2,2-2,6 mmol/24h

Further investigation I

- **Skeletal scintigraphy** – strong metabolic activity around bone epiphysis, not typical for inflammation, more likely **due to metabolic disease.**

- **Native chest CT** – most likely **sarcoidosis** with cervical, axillar, mediastinal lymphadenopathy (Ø 1 – 1,3 cm) that should be differentiated between **miliary tuberculosis**.

- **Native abdomen CT** – typical kidney cysts. Angiolipoma of right kidney. Inguinal and retroperitoneal lymphadenopathy (Ø 1,1 – 1,2 cm).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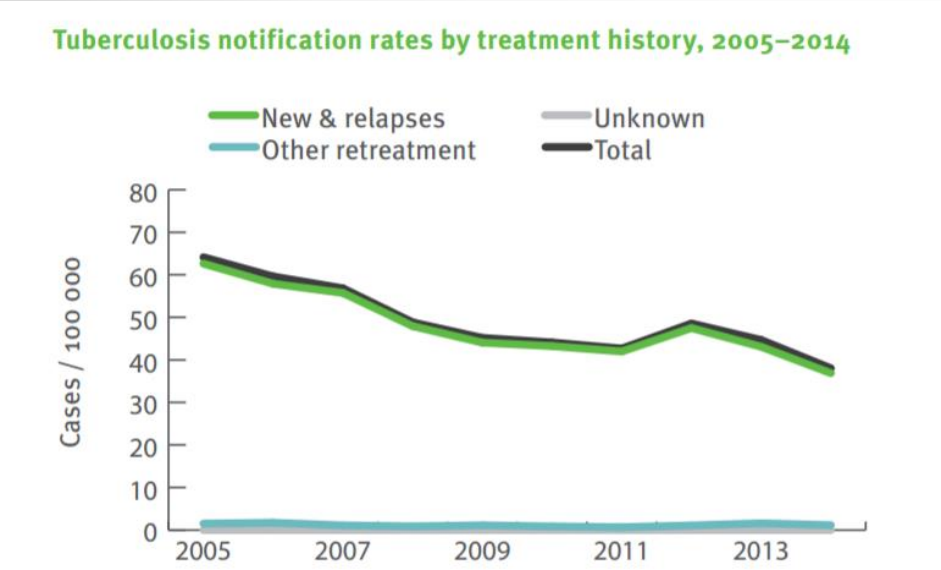
Tuberculosis Europe



< 5 per 100 000

5 to 9 per 100 000

10 to 19 per 100 000

20 to 49 per 100 000

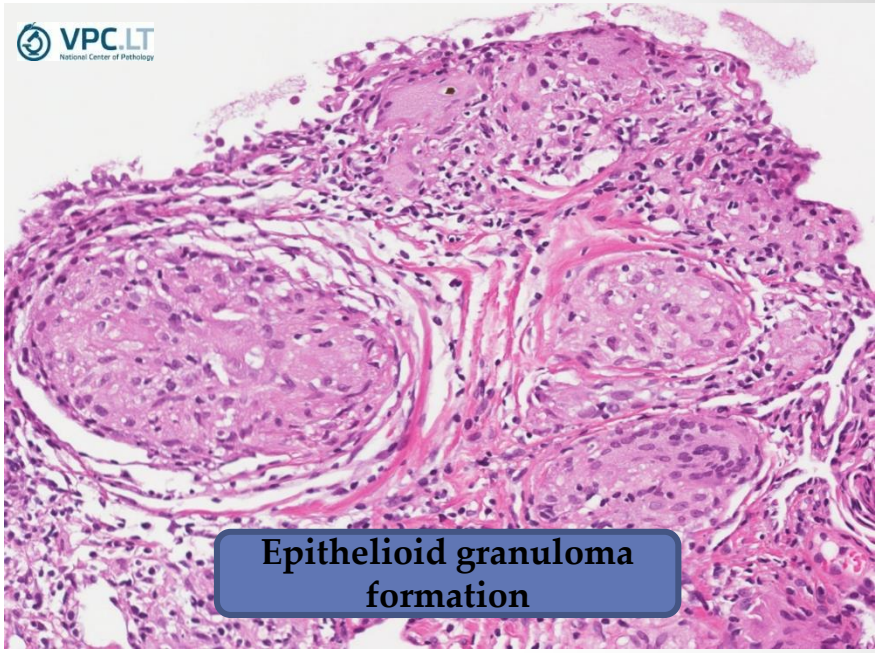
≥ 50 per 100 000

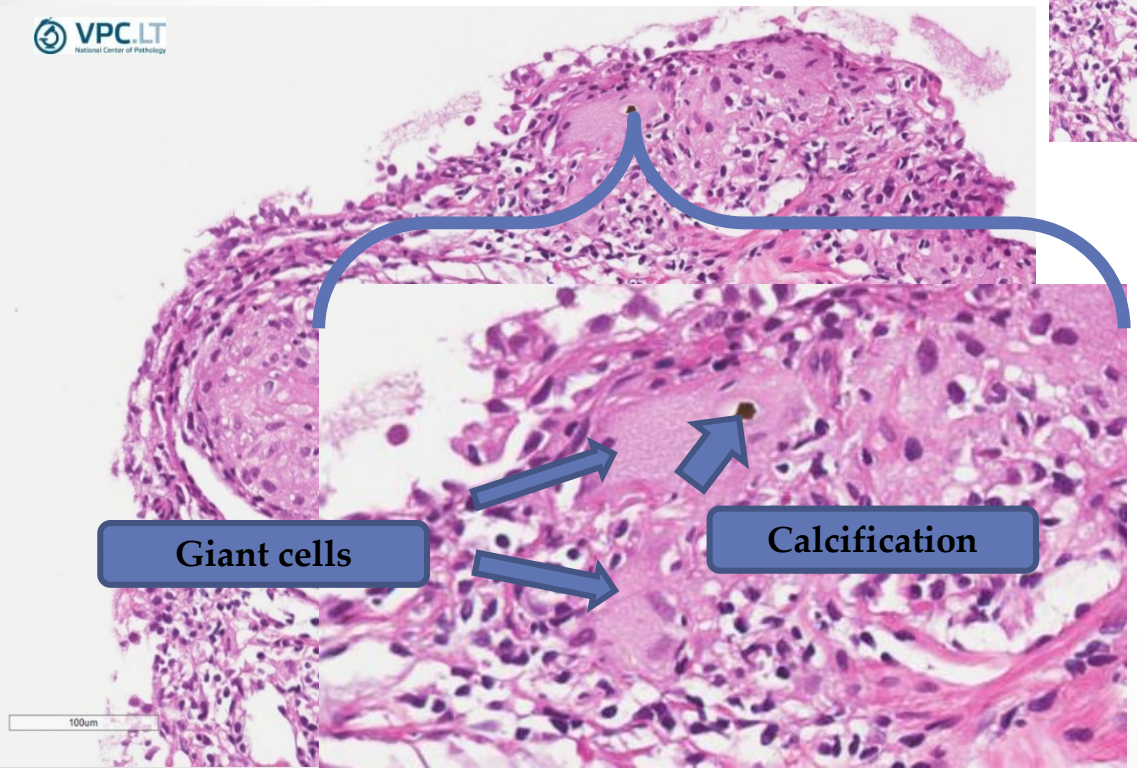
Not reporting

http://ecdc.europa.eu/en/publications/_layouts/forms/Publication_DispForm.aspx?List=4f55ad51-4aed-4d32-b960-af70113dbb90&ID=1452

Bronchoscopy – lung biopsy

- **Bronchoscopy - within normal range**
- **Transbronchial lung biopsy – left lower lobe**
- **Bronchial washing for tuberculosis diagnostics**

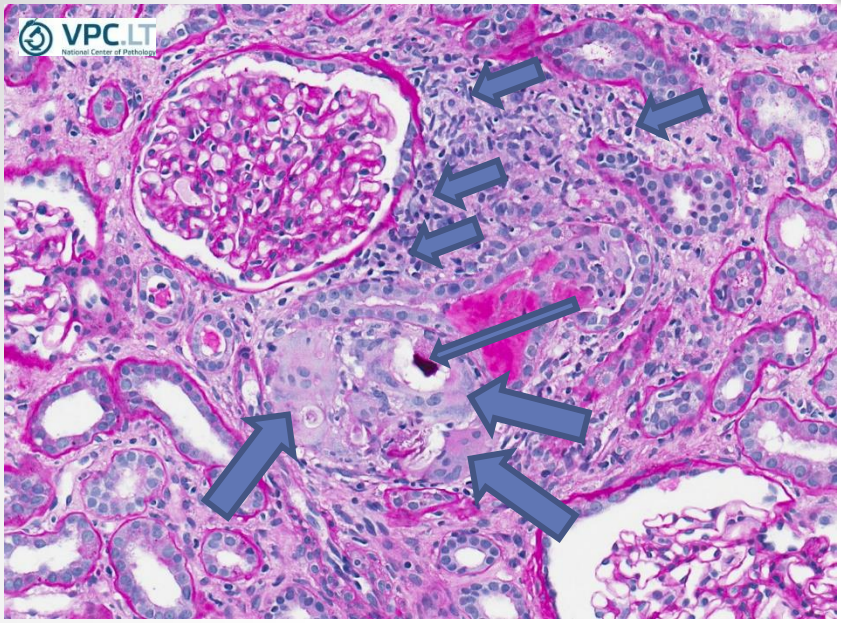




Lung tissue with **fully formed epithelioid granulomas** and surrounding tissue fibrosis.

Multinucleated giant cells with intracytoplasmic mineralization are visible.

Kidney biopsy



The sample contains renal cortex and medulla, 28 glomeruli, 3 of them are globally sclerosed.

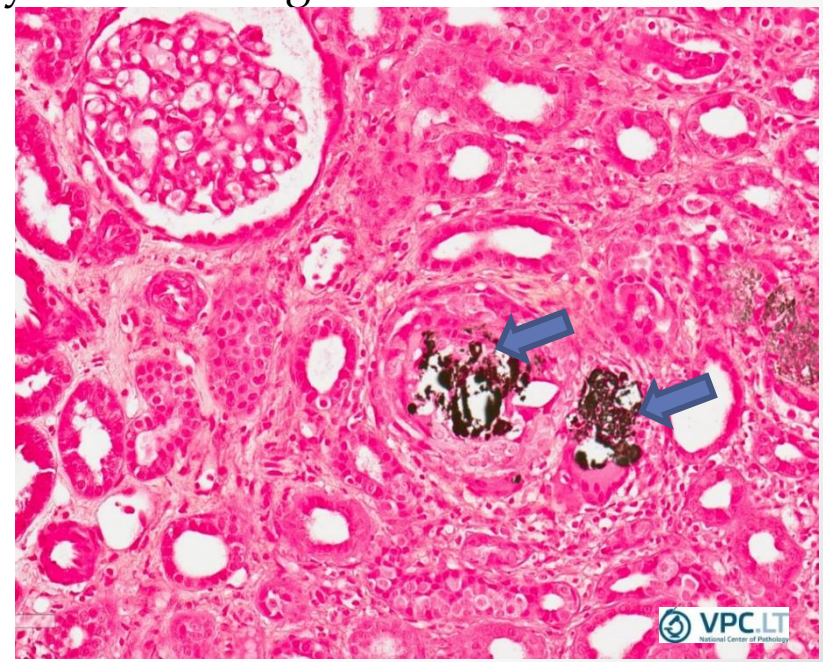
Calcified deposits are positive in Van Kossa histochemical staining, which shows that this material is **calcium phosphates.**

Immunofluorescence: non specific and very focal findings.

The interstitium is focally expanded with mononuclear cell infiltrates occupying approx 20% of cortical area.

Few calcified deposits in the interstitium.

… surrounded by small groups of giant cells.



Final diagnosis?

Bronchial washing:

- Microscopy for ARB **negative**
- GeneXpert TBC **negative**
- BACTEC *M.tuberculosis* ***negative***

Lung biopsy result - lung sarcoidosis

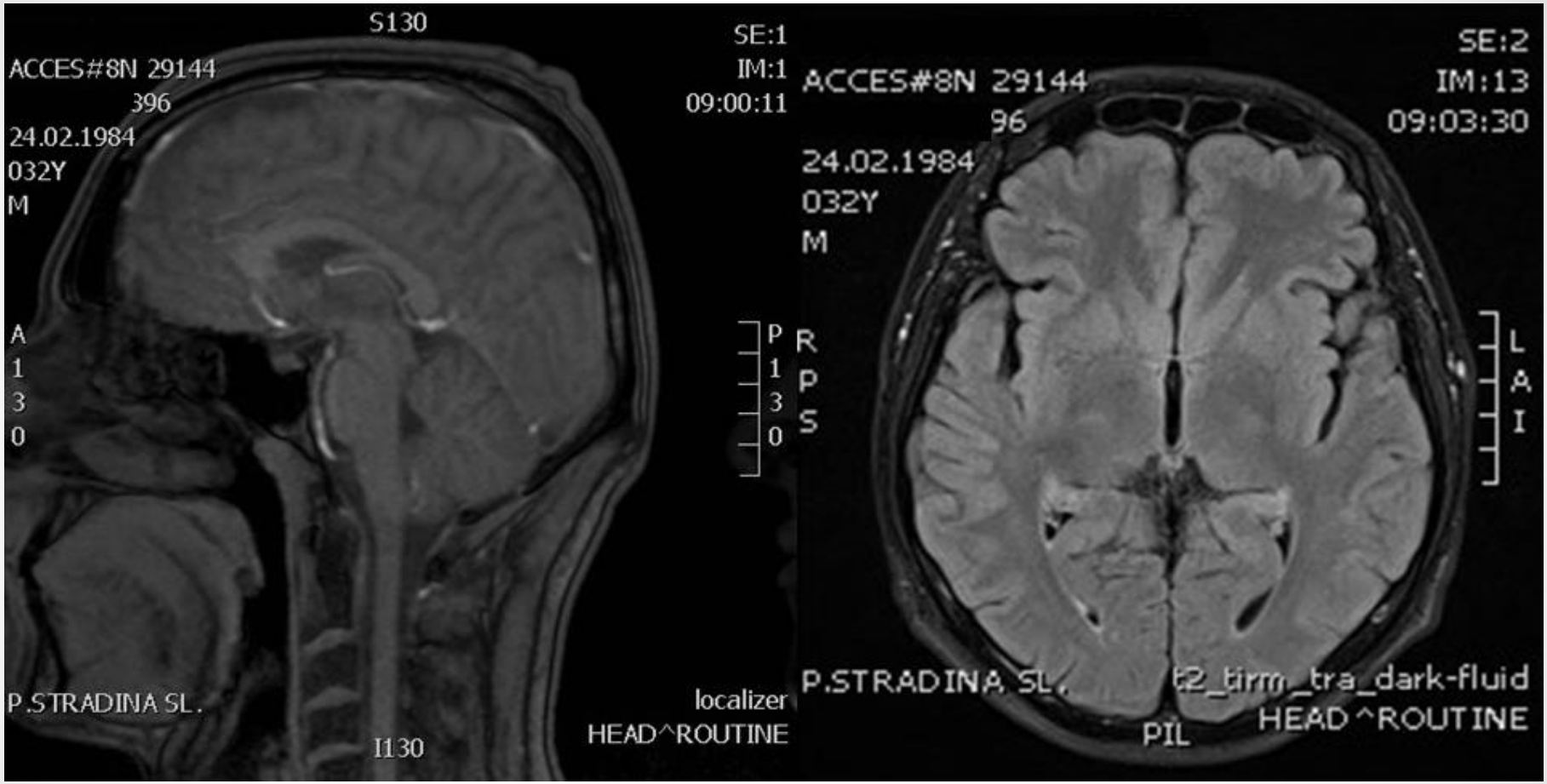
Kidney biopsy result – mild chronic interstitial inflammation with focal calcification

Lung sarcoidosis stage 2

Chronic interstitial nephritis with focal calcinosis

Treatment – *Tab.Prednisoloni 60 mg qd*

Neurosarcoidosis??



Head MRI: No evidence for pathological changes in native MRI are found.

Thank you!