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## INTRODUCTION

**Propylthiouracil** is a drug used in the treatment of **hyperthyroidism** and autoimmunity phenomena have been described as a side effect of its use. Despite anti-neutrophil cytoplasmic antibodies (ANCA) positivity is frequent in patients treated with propylthiouracil, the occurrence of clinically evident **vasculitis** is rare.

## CASE REPORT

### Emergency Department

- **65-year-old woman**
- **Past Medical History:**
  - **Hyperthyroidism** - diagnosed 2 years ago and treated with propylthiouracil (50+50mg) since then;
  - **Chronic Gastritis** - treated with esomeprazole 20mg;
- **Presented with:**
  - dyspnoea
  - pleuritic chest pain
  - hemoptoic cough

} 2 days of evolution
- **Physical Examination:**
  - peripheral oxygen saturation of 82%;
  - rales in the lower thirds of both lungs;

Parameter	Result	Reference Value
Haemoglobin	10,1	12 – 16 g/dL
Leucocytes	8,43x10 <sup>9</sup>	4 – 11x10 <sup>9</sup> /L
Creatinine	0,63	0,51 – 0,95 mg/dL
Urea	34	10 – 50 mg/dL
Na+	134	135 – 147 mEq/L
K+	3,4	3,5 – 5 mEq/L
C-reactive protein	173,4	<3 mg/dL
BNP	68,6	<100 pg/mL
Erythrocyturia	6423,5	<27/uL
Leucocyturia	118	<30/uL

Table 1. Blood analysis in the Emergency Department.

Figure 1. Chest X-ray. Bilateral infiltrates on the lower pulmonary lobes.



Probable pulmonary-renal vasculitic disorder

### Internal Medicine Department

Parameter	Result	Reference Value
ANA	Negative	< 1/100
Anti dsDNA	< 10	< 100
ANCA	PR3	<20
	MPO	> 200
TSH	0,24	0,35-4,94 uUI/mL
T4L	0,7	0,7-1,48 ng/dL
TRABs	0,9	0 – 1,9 U/L
Anti-thyroid Ab	Tg	2,0
	TPO	20,8

Table 2. Autoimmunity study.

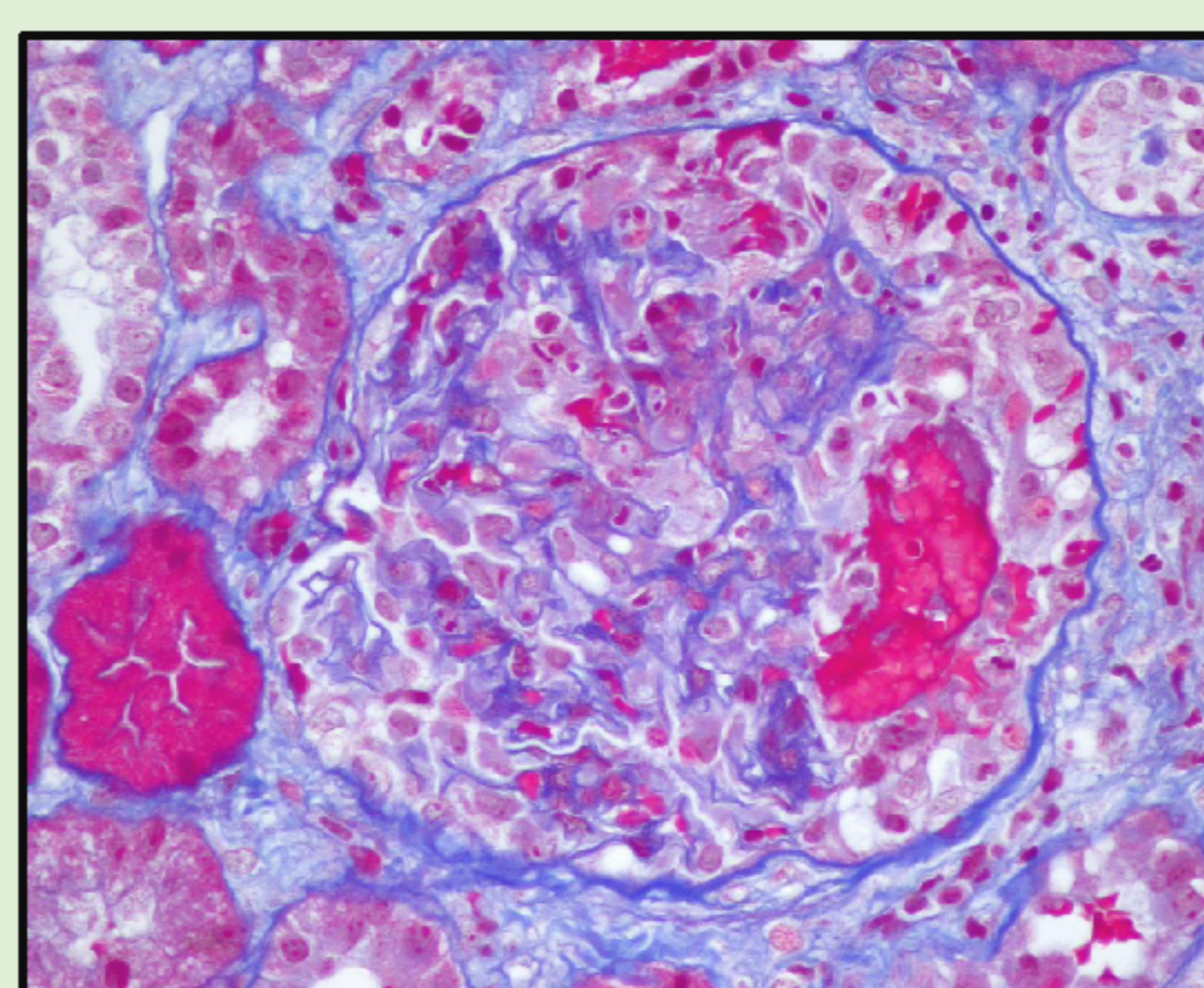


Figure 2. Kidney Histology. Glomerulus with fibrinoid necrosis and cellular crescents.



Figure 3. Thoracic CT. Ground-glass pattern that suggested diffuse alveolar haemorrhage.

- Propylthiouracil suspension;
  - Metilprednisolone and cyclophosphamide pulses
- } Symptomatic and analytic improvement
- Hospital discharge;
  - On remission under prednisolone and azathioprine;
  - Euthyroid without specific therapy.

## CONCLUSIONS

**Propylthiouracil induced ANCA-associated vasculitis** is characterized by the positivity for ANCA of the MPO subtype and by a low recurrence rate when compared with primary vasculitis. This case report raises awareness about the possible systemic side effects of antithyroid agents.

**References:** [1] Balavoine AS et al. Antineutrophil Cytoplasmic Antibody-Positive Small-Vessel Vasculitis Associated with Antithyroid Drug Therapy: How Significant Is the Clinical Problem? *Thyroid*. 2015;25(12):1273-81. [2] Chen M et al. Propylthiouracil-induced antineutrophil cytoplasmic antibody-associated vasculitis. *Nature reviews Nephrology*. 2012;8(8):476-83. [3] Gao Y et al. Long-term outcomes of patients with propylthiouracil-induced anti-neutrophil cytoplasmic auto-antibody-associated vasculitis. *Rheumatology (Oxford, England)*. 2008;47(10):1515-20.