Trombocitosis extrema durante una pielonefritis aguda. Consecuencia colateral de la pandemia por Coronavirus (COVID-19)

Extreme thrombocytosis during acute pyelonephritis. Collateral consequence of the Coronavirus (COVID-19) pandemic

Ariadna Andrade-Piña, Clara Casar-Cocheteux, Joaquín Campos-Franco, Arturo Gonzalez-Quintela

Department of Internal Medicine, Complejo Hospitalario Universitario, Santiago de Compostela, Spain

ABSTRACT
A young woman with extreme (>1,000x10^9/L) thrombocytosis during Escherichia coli pyelonephritis is presented. Diagnosis of pyelonephritis was delayed after several teleconsultations for atypical symptoms during the COVID-19 pandemic. Virtual clinic models can lead to protracted courses and bizarre manifestations of infectious disease.

Keywords: Thrombocytosis, pyelonephritis, Coronavirus, COVID-19

INTRODUCTION
Thrombocytosis, defined as a platelet count greater than or equal to 400x10^9/L, is commonly seen in routine blood cell counts1,2. Extreme thrombocytosis, defined as a platelet count greater than or equal to one million per cubic millimetre (1,000x10^9/L), is rarely seen in general practice1,2. Extreme thrombocytosis may be primary in myeloproliferative disorders or secondary to splenectomy, haemorrhage, iron deficiency, or inflammatory diseases, including infectious diseases, because platelets function as acute-phase reactants1,2. The ongoing Coronavirus pandemic (COVID-19) has changed clinical attitudes and has fostered non-presential care (telemedicine). Virtual clinic models have advantages and drawbacks. The latter include obvious limitations for physical examination and additional restraints because of lack of face-to-face interaction3. We present a case of extreme thrombocytosis during Escherichia coli pyelonephritis whose diagnosis was delayed in spite of teleconsultations during the COVID-19 pandemic.

CASE REPORT
A 33-year-old woman was referred to the Emergency Department from primary care for analytical alterations on April 2020. During the preceding 16 days, she had consulted three times because of bilateral back pain. Non-presidential (telephone) care had been given due to the ongoing COVID-19 pandemic. She denied fever, rigors, and urinary symptoms. She had been treated with analgesics (dextketo-profen, acetaminophen, and tramadol) without relief. Lack of improvement led to a request for analytical studies whose diagnosis was delayed in spite of teleconsultations during the COVID-19 pandemic.

DISCUSSION
Extreme thrombocytosis is exceptional during acute pyelonephritis. In our experience in a series of 421 patients with pyelonephritis who were admitted to the hospital, median platelet count on admission was 211x10^9/L; in that series, just 14 cases (3.3%) showed a platelet count greater than 400x10^9/L, and only one case showed a platelet count greater than 500x10^9/L (highest observed value, 607x10^9/L) (unpublished observation). In another series of 52 patients with severe pyelonephritis (acute focal bacterial nephritis), only one patient (1.7%) showed a platelet count on admission...
greater than 400x10⁹/L (highest observed value, 407x10⁹/L) (unpublished observation). In contrast, transaminase elevation (also present in this case), is common during acute pyelonephritis⁴. The favourable outcome after therapy confirms that the protracted infectious/inflammatory disorder was the cause of analytical aberrations in the presented case.

The COVID-19 pandemic is ever changing medical attention, including Primary Care⁶. In the first weeks after the state of alarm due to the COVID-19 pandemic (the period in which the presented patient developed her disease), the attendance to the Emergency Department decreased by two thirds, and hospital admissions in medical areas decreased by a third in a general hospital from our region⁶. Virtual care and telemedicine are useful tools in this changing scenario, but may lead to missed treatment for acute problems, to inadequate prevention, or to uncontrolled chronic disease³. The presented case illustrates how delayed diagnosis may favour protracted courses and atypical manifestations of infectious disease.

**CONFLICTS OF INTEREST AND SOURCE OF FUNDING**

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Funding: The authors declare that there were no external sources of study for the performance of this article.

Ethics approval: The authors declare that no data that allows identification of the patient appears in this article.

**REFERENCES**