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Letter to the Editor

Arterial thrombosis and coronavirus disease 2019 in a patient with cancer

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To the Editor

Preliminary reports have pointed out to an increased risk of thrombotic events in patients diagnosed with coronavirus disease 2019 (Covid-19) [1,2] and optimal prophylactic strategies remain unknown. Herein, we report the case of a patient with cancer, positive for Covid-19 who developed an extensive intra-aortic thrombosis.

1. Case

A 66-year old woman known for hypertension, osteopenia, anxiety and a benign thyroid nodule was diagnosed 4 months ago with a non-operable intrahepatic cholangiocarcinoma. She had no prior thrombosis. Patient was started on chemotherapy with cisplatin and gemcitabine. Day eight of her second cycle, she reported 24 h of fever associated with dry cough, nasal congestion and dyspnoea on exertion. Patient was admitted to the hospital and tested positive for SARS-CoV-2 PCR nasal swab. On admission, blood results showed a normal complete blood count beside a mild lymphopenia

(0.7×10^9 /Liter), and normal INR and PTT but elevated fibrinogen (6.3 g/L) and an elevated D-dimer level (1588 μ g/Liter). Chest X-ray revealed wedge infiltrates in the left superior lobe. She was started on ceftriaxone and azithromycin, oxygen support and prophylactic low-molecular-weight-heparin (LMWH).

On day 3 of her hospitalization, patient remained febrile and complained of a new right upper quadrant abdominal pain. Antibiotics were changed for piperacillin-tazobactam and vancomycin and a angioscan of the chest and abdomen-pelvic scan were performed. Findings were consistent with covid-19 infection, with bilateral ground-glass infiltrates in the chest. There was no pulmonary embolism nor progression of her cholangiocarcinoma. However, arterial series revealed multiple thrombi in the descending thoracic aorta and in the abdominal aorta near celiac trunk (Fig. 1). She had no sign or symptoms of cerebrovascular or other peripheral arterial occlusion. All blood cultures were negative. Aspirin was started and LMWH was changed to therapeutic dose. Subsequent serological testing was negative for antiphospholipid antibodies.

2. Discussion

Arterial thromboembolic events in patients with cancer on cisplatin-based chemotherapy are known complication reported in <1% [3], but extensive aortic thrombi

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Fig. 1. Scan of the thorax and abdomen showing the aortic thrombi at different levels as filling defects pointed by arrows.

are rare [4]. This report of arterial thrombosis despite optimal prophylactic treatment highlights the

prothrombotic risk associated with Covid-19 infection, potentially compounded by cisplatin use and a paraneoplastic prothrombotic state. Reports suggest that inflammatory cytokines released during Covid-19 infection are associated with endothelial vascular damage which may favour disseminated thrombosis [5]. Important questions raised by this case and others concern the adequacy of standard prophylactic doses of LMWH in Covid-19 disease. In a broader view, perhaps that wider use of anticoagulants in adult ambulatory patients undergoing chemotherapy, as recently shown by Khorana *et al.* [6] should be emphasized in the setting of the Covid-19 pandemic. Studies are currently evaluating different strategies to increase the doses of thromboprophylaxis LMWH in patients with Covid-19 and elevated baseline prothrombotic risk factors such as cancer.

Conflict of interest statement

None of the authors has any conflict of interest to disclose concerning this case.

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