Estradiol/levonorgestrel

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Pulmonary thromboembolism: case report

A 45-year-old woman developed pulmonary thromboembolism during treatment with estradiol/levonorgestrel as hormonal contraception.

The woman, who was overweight and multiparous, had been receiving oral hormonal contraception with estradiol/levonorgestrel (estradiol 0.03mg and levonorgestrel 0.15mg daily) for last 13 years. She presented with worsening dyspnoea, headache, ageusia and general malaise. She was hospitalised. At admission, she reported dyspnoea at rest, which was associated with intermittent retrosternal oppressive chest pain radiating to the back. Physical examination demonstrated pulmonary aggregates on auscultation. Her vital signs indicated tachypnoea, desaturation and tachycardia.

The woman was initiated on oxygen therapy, requiring a non-rebreathing mask to maintain her adequate oxygen saturation. RT-PCR test for SARS-CoV-2 was performed, which confirmed COVID-19. She was transferred to the respiratory ICU. Her admission paraclinical tests showed neutrophilia, lymphopenia, mild thrombocytopenia, leukocytosis and elevated transminases. Due to concern for her risk of bacterial pneumonia co-infection, she started receiving ampicillin/sulbactam as empiric antibiotic treatment. An echocardiogram showed right ventricular dysfunction. A CT pulmonary angiography (CTPA) was performed based on YEARS protocol due to significant elevation of the D-dimer, which showed a massive pulmonary thromboembolism with compromise to the posterior basal segmental artery of the left lower lobe, inferior lingual, and apical-posterior segment of the left upper lobe. The pulmonary thromboembolism was suspected to be secondary to estradiol/levonorgestrel [*time to reaction onset not stated*]. She was treated with alteplase. She showed improvement in her haemodynamic and ventilatory patterns. During her hospital stay, she developed respiratory failure with invasive mechanical ventilation support requirement and subsequent tracheostomy. She also developed severe anaemia requiring blood transfusions and septic shock requiring unspecified broad spectrum antibiotics and haemodynamic support therapy. An adequate response to treatment was noted with a satisfactory evolution, successful extubation and transfer to the general hospital floor. She was evaluated by the OB-GYN attending physician, and was contraindicated the further use of estrogenic hormonal contraceptives. She was discharged from the institution with indefinite anticoagulation therapy with a factor-XA inhibitor.

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