Henoch-Schönlein purpura with renal and gastrointestinal involvement in course of COVID-19: a case report

Sirs,

Henoch-Schönlein purpura (HSP) is a non-thrombocytopenic, leukocytoclastic vasculitis involving small vessels that can affect the integumentary, gastrointestinal, musculoskeletal and renal systems (1). Though it primarily affects children (over 90% of cases), the occurrence in adults has been rarely reported (3.4 to 14.3 cases per million) (2). Skin biopsy and subsequent histopathological analysis demonstrate areas of leucocytoclastic vasculitis, and immunofluorescence shows IgA deposition in vessel walls (3). Recently, several cases of purpuric, non-blanching, pruritic and painful rash in the setting of the current 2019 novel coronavirus disease (COVID-19) have been reported (4-6), one of them with generalised purpuric eruption showed typical microscopic features of leucocytoclastic vasculitis (6).

We report the case of an adult patient hospitalised for respiratory distress in course of SARS-Cov2 infection with full presentation of HSP with renal and gastrointestinal involvement and biopsy consistent with diagnosis.

A 62-year-old man was referred to the Emergency Room of our Hospital, because of dyspnea and fever. A test to detect SARS-Cov-2 by real-time reverse transcription polymerase chain reaction assay of a throat swab was positive. Chest x-ray showed bilateral interstitial pneumonia with suspect ground glass opacities limited to the left lung. Therapy at the day of admission: beta blocker bisoprolol, angiotensin receptor-blocker telmisartan, statin and basal-bolus insulin administration in combination with SGLT2-inhibitor. The patient was hospitalised and treated with cycles of continuous positive airway pressure (CPAP), off label therapies with hydroxychloroquine and lopinavir/ritonavir were used and antibiotic therapy with levofloxacine was performed. A progressive improvement of clinical and respiratory performances was observed. Enoxaparin was administrated for prevention of venous thromboembolism. In the following days we observed improvement of pneumonia with progressive withdrawal of oxygen therapy. After ten days from admission, the patient developed purpuric lesions with raised papules involving lower extremities, buttocks and both arms, followed by acute abdominal pain, vomiting, and haematochezia. Urine analysis demonstrated the presence of haematuria and proteinuria, glycosuria and hyaline cylinders with negative cultural urine examination. An abdominal computed tomography scan revealed enteritis with oedema of the last 40 cm of ileal intestinal tract up to the first digiunal loop. A punch biopsy evidenced a perivascular and interstitial lymphocytic infiltrate mainly distributed in the upper dermis, together with extravasated red blood cells, ectasic capillary vessels, endothelial cells with signs of swelling without atypia. The immunohistochemical examination revealed intense IgA vascular deposits (Fig. 1). The diagnosis of HSP with renal and gastrointestinal involvement was performed and a therapy with methylprednisolone 1mg/kg/day was started, with improvement of renal function and progressive remission of abdominal pain and skin purpura and normalisation of the renal function. The treatment with steroid was progressively tapered and the patient was referred to the outpatient clinic for follow-up.

Skin symptoms of COVID-19 have been poorly described but may include erythematous rash, urticaria and chicken pox like lesions (7). It is known that severe COVID-19

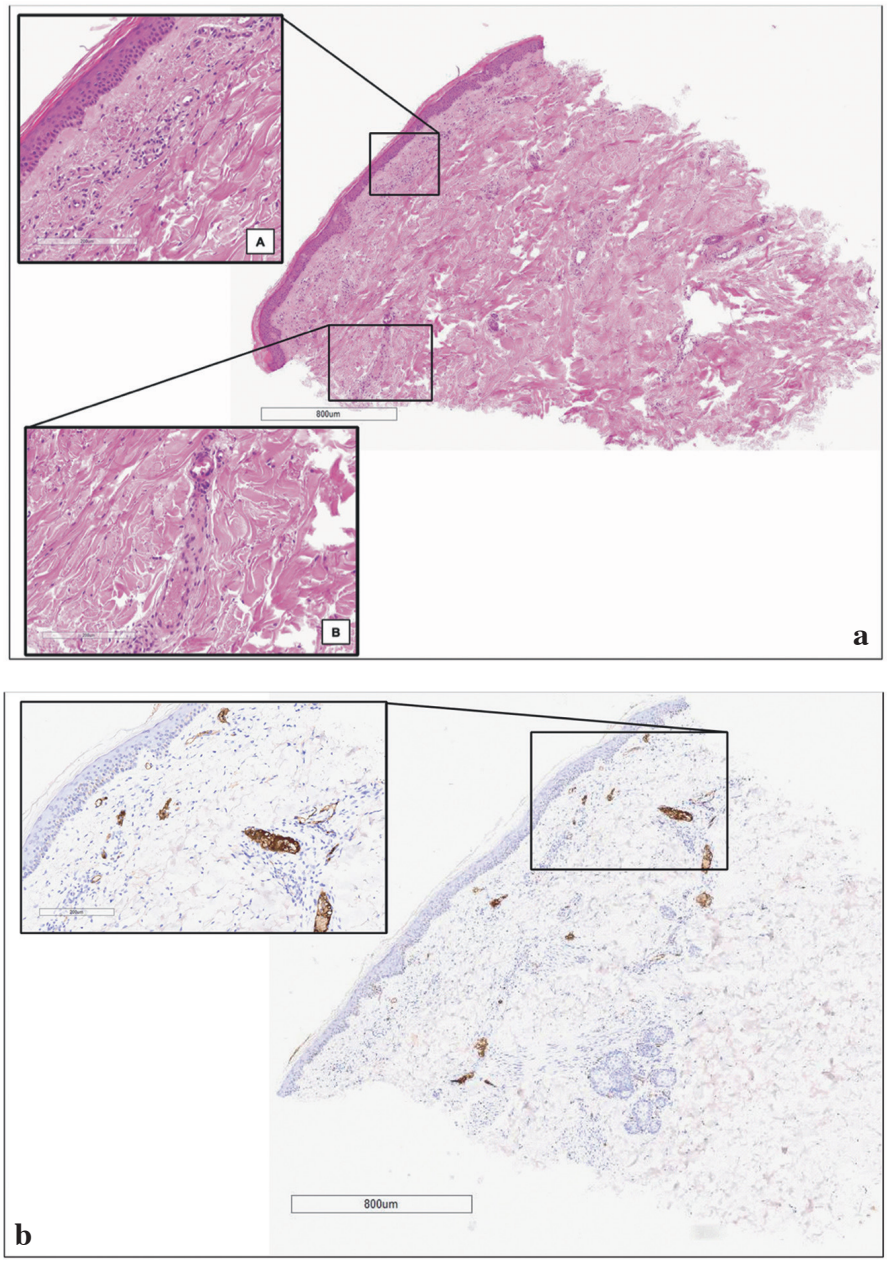

Fig. 1. A punch biopsy was performed at the lower leg. The specimen was subsequently formalin-fixed, paraffin-embedded and stained with Haematoxylin and Eosin.
Microscopically, a mild perivascular and interstitial lymphocytic infiltrate was evident, mainly distributed in the upper dermis, together with extravasated red blood cells (Fig. 1a, insert A).
Ectatic capillary vessels were also observed, frequently engulfed by erythrocytes (Fig. 1a, insert B).
Endothelial cells showed occasionally signs of swelling without atypia or evident nuclear dust.
Epidermis was slightly atrophic with no alteration regarding the stratum corneum.
The immunohistochemical examination performed revealed intense IgA (Dako Omnis, cod. GA510) vascular deposits (Fig. 1b).

induces endothelial damage and vasculopathic changes (8).
Steroid treatment in HSP is not yet standardised, and several concerns have been made regarding the use of steroids in the course of SARS-Cov2 infection, while more recently the beneficial role of dexamethasone for treatment of respiratory distress in COVID-19 has been highlighted (9).
Even if leucocytoclastic vasculitis in course of COVID-19 has been recently reported (6), this is the first case described, to the best of our knowledge, of an adult patient with typical presentation of HSP with renal and gastrointestinal involvement in course of COVID-19 with histological findings of leucocytoclastic vasculitis and IgA deposits on immunohistochemistry.
Clinicians should be aware of these skin symptoms to optimise COVID-19 detection and quarantine procedures.

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