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Henoch-schönlein Purpura (HSP) in a patient on Abemaciclib

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Henoch-Schonlein Purpura (HSP), also known as IgA vasculitis, is a small-vessel vasculitis associated with IgA-dominant immune deposits in the skin, gut and kidney [1]. It is usually characterized by a triad of symptoms including purpuric skin rash, abdominal pain or renal involvement and arthritis. In adults, HSP is seen in 3.4–14.3 cases per million [1]. Approximately two thirds of patients have a triggering event, most often an infection or an allergic reaction to drugs such as targeted therapies [1]. The cyclin-dependent kinases 4/6 (CDK4/6) inhibitors are a new class of drugs recently approved for the treatment of hormonal receptor positive/HER2 negative (HR+/HER2-) advanced breast cancer (BC) [2]. To date, no case report of HSP in patient on CDK4/6 inhibitors plus endocrine therapies has been described.

In May 2019, an otherwise healthy 65-years-old female was diagnosed with stage IV HR+/HER2- BC with liver, lung and bone metastasis. Hypertension treated with ACE inhibitors was the only known comorbidity. From June 2019, she started first line treatment with a combination of CDK4/6 inhibitor (Abemaciclib 300 mg daily) and Letrozole. She was on treatment without relevant side effects and good clinical response. In October 2019, she presented to outpatient clinic referring one-day history of joint pain, severe asthenia, fever and spreading purpuric papules on lower limbs (Fig. 1A). Laboratory tests revealed a nephritic syndrome manifesting with a progressive renal failure (Creatinine 3,13 mg/dL), microhematuria and proteinuria. Over the next 6 hours, the purpura spread further over the sides and buttocks (Fig. 1B). Assuming a provisional diagnosis of HSP, the patient was started on intravenous dexamethasone 1 mg/kg body weight and systemic antibiotics, with clinical improvement. Blood cultures, serological and antiantibodies tests resulted negative. Renal biopsy was performed. Light microscopy revealed mesangial hypercellularity accompanied by diffuse IgA and C3 deposits in the mesangiu. The diagnosis of Abemaciclib-induced HSP was made. Finally, corticosteroid tapering was initiated and the patient was discharged after 15 days of hospitalization with complete normalization of renal function. One month later Abemaciclib was re-started at the lower dose (100 mg BID), without any other side effect.

We speculate that the Abemaciclib could have triggered an abnormal IgA-mediated immune response against the small vascular walls endothelial cells [3]. Recent research provides cumulative evidence for functions of cell cycle regulators in immune defense. Pre-clinical evidence reported an upregulation of select cytokines and chemokines (such as PD-L1, PD-L2), an increase of IFNγ-dependent enzymes and an upregulation of MHC class I and II in tumors treated with Abemaciclib [4]. Although uncommonly, HSP may follow treatment with Abemaciclib, which use is further increasing in BC treatment strategy. Hence, an increased awareness among oncologists could allow for early recognition and appropriate treatment.

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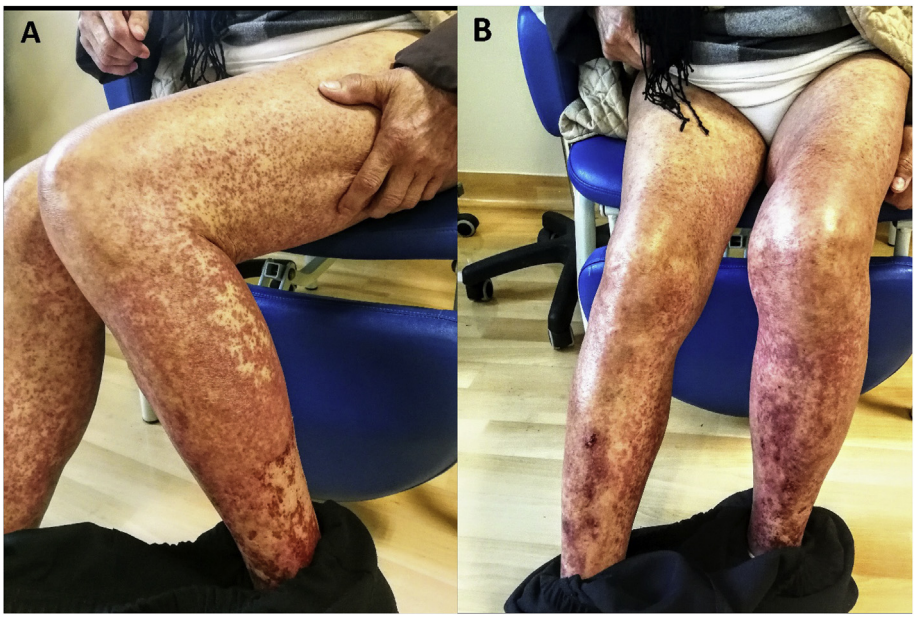

Fig. 1. A Palpable purpuric papules and plaques on both lower limbs. B The purpura spread further over the sides and buttocks.

Ethical approval

Informed consent was obtained from the patient included in the study.

Declaration of competing interest

I declare that we have no conflict of interest.

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