Urticarial rash after Tranexamic Acid infusion

Sir,
Tranexamic acid is used in wide variety of hemorrhagic conditions. It reduces intra, postoperative blood losses and transfusion requirement in a number of types of surgeries. Tranexamic acid is a synthetic derivative of amino acid lysine causing anti-fibrinolytic effect through reversible blockade of lysine binding sites on plasminogen molecules.

A 45-year-old female patient weighing 60 kg diagnosed as uterovaginal prolapse was posted for elective vaginal hysterectomy. Airway assessment and spine examination were normal. Systemic examination was normal with negative past history of any known drug allergy. Her blood investigations were within normal limits. We planned to administer spinal anesthesia. Routine noninvasive monitoring were established. Her baseline vitals shows pulse rate of 86 beats/min, regular, blood pressure 130/72 mmHg, electrocardiogram shows sinus rhythm and SpO$_2$ 99% on room air. We put a spinal anesthesia and sensory blockade was achieved till T10 level.

Surgery started in the lithotomy position. After 1 h patient, had active bleeding at the surgical site so we injected injection tranexamic acid 600 mg in the fluid as a bolus, after 15 min patient developed urticarial rashes on an intravenous cannulated upper limb [Figure 1] with pulse rate 120 bpm and blood pressure 80/46 mmg. Immediately, we stopped the infusion of tranexamic acid and injected injection pheniramine maleate 45 mg and injection hydrocortisone sodium succinate 100 mg intravenously and bolus of 500 ml normal saline over 15 min. After 20 min, vitals were stabilized. The whole surgery lasted for 3 h without any postoperative complications.
Tranexamic acid, although generally well tolerated, can cause hypersensitivity reactions through different mechanisms either immunological or nonimmunological. Etamsylate can also cause anaphylaxis and allergic reactions but through a different mechanism of action in respect to tranexamic acid. There were only a few papers concerning hypersensitivity reactions to tranexamic acid. Lucas-Polomeni et al.\cite{1} observed a case of anaphylactic shock following bolus infusion of tranexamic acid in a 72-year-old male patient undergoing coronary artery bypass graft surgery. Moreover, bullous and fixed-drug eruptions after tranexamic acid exposure have been described.\cite{2,3}

Although the risk of immunogenic and severe allergic reactions after primary exposure or re-exposure to tranexamic acid is significantly lower than that associated with the administration of other drugs such as aprotinin, but adverse reactions to tranexamic acid can occur.\cite{4} It is important to outline that tranexamic acid is a synthetic analog of lysine, the amino acid involved in IgE binding in many allergens.\cite{5}

In a retrospective study conducted by Imbesi et al.\cite{5} based on analysis of data from patients with previous adverse drug reactions admitted to the Allergy and Clinical Immunology Division of both the University of Messina and the University of Bari in the past 4 years. They observed five patients: four of them (two males and two females) with a well-documented history of tranexamic acid hypersensitivity reactions and one female who showed a positive response to an intradermal challenge test with tranexamic acid.

Pretel Irazabal et al.\cite{6} reported a case of toxic epidermal necrolysis induced by orally administered tranexamic acid in a patient with liver cirrhosis and acute rectal bleeding.

Tranexamic acid is widely used in clinical practice, but usually, it is well tolerated. However, it is important to be aware of a potential hypersensitivity to this drug, especially in patients with multidrug hypersensitivity history. Therefore, before starting of a tranexamic acid treatment, physicians should take into account the potential appearance of hypersensitivity reactions.

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Conflicts of interest
There are no conflicts of interest.

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