

Adverse Reactions to 6% Hydroxyethyl Starch in the Operating Room

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Sir,

We are reporting a case of allergic reaction to 6% Hydroxyethyl Starch (HES) in the operating room. A 18-year-old male with intertrochanteric fracture in right femur was referred for pre-anaesthetic check-up for dynamic hip screw fixation.

Patient had no history of drug allergies and surgery was planned under American Society of Anaesthesiologists grade I (ASA-I). Successful subarachnoid block was achieved with 0.5% Bupivacaine. Crystalloids like Ringer Lactate, 5% Dextrose in 0.9% Sodium Chloride were used to correct fasting status of patient and also as intraoperative fluid of choice. During surgery, pulse volume was low and blood pressure was 90/60mm Hg. 6% HES was used to correct the blood pressure. 6% HES is highly effective plasma expander, less expensive as compared to others and was available in our operating theatres. After few minutes of colloid transfusion, patient started to develop cough, difficulty in breathing, tachypnoea, tachycardia (120/min), hypotension (80/50mmHg). 6% HES transfusion was stopped and 100% oxygen was delivered to the patient via a face mask. Normal saline bolus was given, followed by intravenous (IV) Chlorpheniramine Maleate, Hydrocortisone, Ephedrine, which made the patient haemodynamically stable after some time.

HES is synthetic nonprotein colloid solutions that are modified natural polysaccharides consisting of hydroxyethylated polymers

of glucose. They are defined by concentration, molar substitution ratio and average molecular weight [1]. The side effects of HES range from mild allergic reactions to severe anaphylactoid reactions. However, their incidences are lowest as compared to those of other colloids and very few cases have been reported till date [2,3].

We couldn't perform tests like measurement of serum tryptase, plasma histamine or allergen-specific IgE in our patient. We would like to attribute HES as the cause of allergic reaction, because of the signs and symptoms caused soon after its initiation. Here, we would like to stress on the importance of identification of allergic reactions/anaphylaxis intraoperatively, when a colloid is given to a patient, though it is rare. Diagnosis is difficult in a patient under general anaesthesia, as various types of medications are used. Awareness, aggressive therapy with hydration, vasopressors, antihistamines and steroids result in better outcomes in such patients.

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