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Lignocaine toxicity following a dental procedure: a case report

Siti Farah Fatihah, MIM Rafeek
Hospital Sultan Abdul Halim, Sungai Petani, Kedah, Malaysia

Objective: Local anaesthetics such as lignocaine have been used extensively since it was first introduced 70 years ago. Despite its extensive usage, there is still a lack of awareness among dental practitioners and clinicians in the detection and treatment of toxicity related to lignocaine. Lignocaine toxicity can cause circumoral numbness, facial tingling, restlessness, vertigo, tinnitus, slurred speech, tonic-clonic seizures, ventricular arrhythmias and cardiac arrest. We highlight the case of a patient presenting with systemic lignocaine toxicity.

Case Report: A 62 years-old lady presented to the emergency department with complaints of presyncopal attacks. She also experienced perioral numbness, tingling sensation at the facial region, giddiness and diaphoresis. A few hours prior to these symptoms, the patient had undergone a simple and uncomplicated dental procedure where 4 ml of 2% xylocaine with adrenaline 1:80 000 solution was used. The patient developed both central nervous system and cardiac signs and symptoms. She was hypotensive with blood pressure of 94/54 mmHg and had severe bradycardia, heart rate 18-20 bats/minute. Blood investigations revealed severe metabolic acidosis and hyperkalaemia. The patient was given IV atropine 0.5mg every 5 minutes for 5 doses and started on IV dopamine infusion. Hyperkalaemia was treated with IV 10% calcium gluconate, IV dextrose 50% and IV insulin. Heart rate subsequently improved to 52-58 beats/minute. The patient's initial symptoms of perioral numbness, tingling sensation and giddiness resolved after administration of 200 ml IV intralipid emulsion 20%. The patient was admitted to medical ward and discharged well without any complications 4 days later.

Conclusion: Early recognition and identification of signs and symptoms of lignocaine toxicity is paramount in managing patients effectively. Precaution should be taken especially when administering lignocaine to patient's with underlying medical problems such as heart disease and chronic kidney disease. This group of patients should be observed post procedure to detect any untoward side effects of lignocaine. Prompt administration of intravenous lipid emulsion in the emergency department can improve patient's outcome, thus should be made readily available to prevent unnecessary delay in management.