

## CASE REPORTS

### ACUTE ANAPHYLAXIS WITH LIGNOCAINE

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#### INTRODUCTION

Over the years lignocaine has gained widespread popularity in different fields of medicine not only as a local anaesthetic but also as a reliable anti arrhythmic drug. Apart from anaesthesiologist, it is being commonly used by the physicians, cardiologists, surgeons, ophthalmologists, dentists, otolaryngologists and obstetricians. As far as the adverse effects are concerned, over dose toxicity is quite well known and taken into account by most of the physicians [1]. Acute anaphylactic reaction is an uncommon complication and rarely seen even by the anesthesiologists [2]. Here is an account of such a case observed and managed in Somalia.

#### CASE REPORT

A fifty years old Somali male was booked for cataract extraction under local anaesthesia. There was no systemic disease. The facial and orbital nerves were blocked with 20 milliliter of 1 percent plain lignocaine. Within five minutes of administration it was observed that the patient became semiconscious and could not breathe properly. When anaesthesiologist reached the situation, patient was listless, there was increased respiratory effort, and pulse oximeter read less than 80% saturation. Oxygen 100% was immediately started by mask. On further examination there was weak thready pulse and blood pressure could not be recorded. There were inspiratory and expiratory rhonchi all over the chest and diffuse urticarial rash could be observed on arms and chest in spite of darkly pigmented skin. Patient's feet were raised about six inches on a

pillow and one milligram of diluted adrenaline was given intravenously in two minutes. Same dose was repeated after five minutes and 1000 ml Ringer's solution infused rapidly. Within a few minutes, patient's blood pressure improved to 90/60 mm Hg and he regained consciousness. Injection aminophylline 250mg was given intravenous slowly. Oxygen saturation progressively improved to normal limits. Within ten minutes the area of spread of skin rash increased and blood pressure again started falling, rhonchi persisted. Injection hydrocortisone 200mg intravenous and adrenaline infusion (2 mg in 100 ml 5% dextrose) started at the rate of 15 to 30 ml/hour (5-10µg/min). Surgery was postponed and the patient was further managed in the intensive treatment center (ITC). There he was continuously monitored for heart rate, ECG, non-invasive BP and saturation of oxygen. He was kept on oxygen by mask, continuous adrenaline infusion and was given injection hydrocortisone 100 mg every six hours. Skin rash subsided, BP stabilized and chest cleared. He was kept over night in ITC and next morning discharged from the hospital.

#### DISCUSSION

Commonly reported adverse effect to local anaesthetics is over dose toxicity. Allergic reactions are rare despite the frequent use of these drugs. It is estimated that less than 1 % of all adverse reactions to local anaesthetics are due to an allergic mechanism. All modern local anaesthetics belong to lignocaine (amide) group. The amino esters like cocaine, procaine and cinchocaine are no more used because of their toxicity and potential to produce allergic reactions. The ester group is para-aminobenzoic acid derivative, which is

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known to be allergenic. The amide local anaesthetics are not derivatives of para-aminobenzoic acid and allergic reactions to this group are extremely rare [3]. From 1986 to year 2004 sixteen cases of anaphylactic or anaphylactoid reactions to amide local anaesthetics, administered topically, epidurally, by skin infiltration, or intravenous injections, have been reported. Three of these cases are due to lignocaine reported from dental practice [4-6]. One case of intravenous preservative free lignocaine added to propofol to reduce pain of intravenous injection [6]. Anaphylactoid reaction with epidural bupivacaine [7] and anaphylactic reactions to intraurethral lignocaine preparation containing preservatives [8] to topical application [9] and subcutaneous injection [10] have been reported. Although the amide local anaesthetics appear to be relatively free from allergic reactions, solutions of these agents may contain a preservative (methylparaben or similar substances), whose chemical structure is similar to para-aminobenzoic acid. As a result, an allergic reaction may reflect prior exposure and antibodies production by the preservative and not local anaesthetics [11]. Documentation of allergy to a local anaesthetic is based on the clinical history and use of intradermal testing [12,13].

Amide local anaesthetics, especially lignocaine, are being used very frequently in medical practice. Apart from the threat of overdose toxicity there is always chance of life threatening anaphylactic reaction. So the administration should not be a casual procedure. It is suggested that no local anaesthetic be administered without a prior intravenous access. Only a person familiar with its toxicity and allergic reactions and fully capable to treat any untoward side effects must administer it. In normal practice, its use must be limited to a location equipped with full facilities for resuscitation. The ability to give oxygen by mask, intravenous fluids and injections like adrenaline, hydrocortisone and aminophylline must be ensured. Patient's heart rate, blood pressure and oxygen

saturation should be monitored. This monitoring during local anaesthesia is called monitored anaesthesia care (MAC). In case of previous history of allergy to lignocaine, intradermal skin testing with other local anaesthetics should be done, and appropriate alternative local anaesthetic be chosen [14].

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