

## Case Report

### Super Vasmol 33 Poisoning: Case report

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**Abstract:** Super vasmol is one of the commonly used cosmetic preparation with toxic effects. Hair dye ingestion is an uncommon form of poisoning in the west; however, in some parts of the world such as Indian Sub-continent it is not uncommon. The main component of hair dye causing toxicity is Paraphenylenediamine (PPD). The common cause for consumption of hair dye is by suicidal intent or accidental oral ingestion. The toxicity of this compound has been found to cause angioneurotic edema, rhabdomyolysis and renal failure. Prompt recognition and effective management lead to complete recovery. We report a case in which minimal consumption has caused severe systemic complication.

**Keywords:** Paraphenylenediamine, Angioneurotic edema, Rhabdomyolysis.

#### INTRODUCTION

Poisoning is one of the preferred means of suicide. Poisoning due to hair dye is relatively rare in India. PPD is present in most hair dye brands like 'super vasmol 33', 'Godrej', Keshkala, colour mate etc. which are available in powder or liquid forms. PPD accelerates the dyeing process and thus used in hair dye formulation. The concentration of PPD varies from, 2 to 10% in branded dyes. The hair dye is extremely cheap and freely available, making it an attractive option for suicidal intent [1]. The importance of a thorough toxicological review is illustrated, and treatment and manifestations of hair dye poisoning are reviewed. Poisoning is one of the preferred means of suicide. Accidental and intentional causes of poisoning have been reported from various parts of India [2, 3].

#### CASE REPORT

A 16 years female was brought to the emergency department with the complaint of having consumed hair dye – Super Vasmol 33 (PPD based emulsion type hair dye), 15ml three hours prior to presentation. At presentation she had complaints of inability to open her mouth and cramps in her legs. On examination, she was found to have trismus and Systemic examination was normal. On admission all the investigations were within normal limits.

Day 2: She had deranged liver and renal parameters. Her urine was of black colour. Investigations obtained revealed myoglobinuria and hyperkalemia. Arterial blood gas analysis showed metabolic acidosis. Treated with hemodialysis and parenteral steroids. She improved and discharged.

#### DISCUSSION

Hair dye poisoning is an uncommon form of intoxication in the West though it is fairly common in some parts of the world such as Africa [4]. The constituents of this hair dye include PPD (4%), resorcinol, propylene glycol, ethylenediaminetetraacetic acid (EDTA), sodium, liquid paraffin, cetostearyl alcohol, sodium lauryl sulphate, herbal extracts, preservatives, and perfumes [5]. Accidental or intentional poisoning results in systemic toxicity [6] in a dose-dependent manner [7]. The main toxicities of this compound include severe oedema of the face and neck frequently requiring emergency tracheostomy [8, 9].

This is followed by rhabdomyolysis and acute renal failure, culminating in death if not treated aggressively



Fig. 1: Super Vasmol 33 hair dye container

[10, 11]. Predominant manifestations were upper airway inflammation (80%) and rhabdomyolysis (60%). Less often noticed features were acute kidney failure, metabolic acidosis.

In our case the severity of clinical manifestations were not correlating with quantity of dye consumed supposed to be dose dependent toxicity. This child also had some uncommon presentations like acute renal failure and metabolic acidosis.

### **CONCLUSION**

Toxicity is dose dependent with increased morbidity and mortality. However, consumption of even lower volumes as few as 15mL resulted in hepatitis and acute renal failure. We recommend all the parents not to keep excess stock and make sure not easily available to children.

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