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APNOEA, HYPERTHERMIA & CONVULSIONS FOLLOWING GLYCOPYRROLATE

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Abstract:
Convulsions and apnoea can be a challenging situation when unanticipated. We are presenting a case posted for emergency excision of infected branchial cyst, who had apnoea, hyperthermia and convulsions following glycopyrrolate. This was managed successfully and did not progress to classical Malignant Hyperthermia.

Key Words: Apnoea, Convusions, Glycopyrrolate, Hyperthermia.

Introduction

Glycopyrrolate is an anticholinergic drug most commonly used as an antisialogogue or premedication before giving general anaesthesia.[1] Apnoea with glycopyrrolate is found among male patients between the age group of 20-29 years. In a study conducted, out of 679 patients who were injected with glycopyrrolate intravenously (IV) 10 patients had apnoea (1.48%). [2]

Case report

A 19 year old male patient was posted for excision of brachial cyst on the left side of neck measuring about 10 X 8cm. Pre anaesthetic evaluation revealed no history of comorbidities, no previous surgeries, no allergy to any known medication. Patient had fever with a temperature of 102 degree Fahrenheit; vitals sinus tacchycardia;Airway assessment showed restricted neck movements because of the branchial cyst, Routine investigations within normal limits. Inj Paracetamol 1gm IV was given; pulse rate, ECG, SpO2 and blood pressure were monitored. As a premedicant inj glycopyrrolate 0.2mg given IV, while preoxygenating with 100% oxygen using bains circuit Patient started sweating profusely, went into apnea with saturation dropping to 67%; 100 %oxygenation with bains circuit was continued. Patient had Generalised convuslions and a temperature of 104 degree F was recorded; Inj Thiopentone sodium was given immediately and oxygenation continued with mask; convulsions stopped, saturation improved to 100% and he regained consciousness.

Surgery deferred in view of high temperature and apnoea following inj. glycopyrrolate. Further evaluation did not show any changes in EEG and he was taken up for surgery after 2 days without any incidents.

Discussion:

Glycopyrrolate is an anticholinergic drug used as an adjunct to reduce oral and pharyngeal secretions prior to induction of general anaesthesia.[1] It's use was approved in the year 1961 by the Food and Drug administration. Glycopyrrolate inhibits the action of acetylcholine on muscarinic receptors in smooth muscle, cardiac muscle, SAN, AVN, exocrine glands and autonomic ganglia.[1] In the above case, the patient is suspected to have gone into apnoea as a side effect of intravenous administration of glycopyrrolate. In various studies conducted in the pediatric and young adult age group, glycopyrrolate has been associated with hypoxia. The respiratory adverse events are more common in the male sex and age group of 20-29 years. Since at the time of administration of the drug, patient was running high temperature, heat prostration which is one of the side effects of glycopyrrolate could have occurred.[3],[4],[5] The other possibility is the occurrence of anaphylactic reaction to glycopyrrolate which manifested as hypoxia, respiratory arrest leading to fall in saturation. The heat prostration could have caused the convulsions also.

Conclusion:

Apnoea can be a side effect of Glycopyrrolate, hence patient should be preoxygenated during premedication with glycopyrrolate to avoid fall in saturation and the drug as such can be avoided in patients with fever who need to undergo surgery.

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