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Comparsion of Intubating Condition Using Three Different Doses of CIS-Atracurium Under General Anaesthesia

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Abstract--- *Background: Cis-atracurium is the cis-cis isomer Methodology: Patients preoperative evaluation & airway assessment will be done and consent will taken before to surgery. 90 patient of ASA 1 & 2 in the age group 20 to 60 divided 3 group 30 each . Results: the three groups having hemodynamic stable. the higher doses having longer duration of action and better hemodynamic.Conclusion: Group C having longer duration of action and stable hemodyamics.*

Keywords--- *cis-atracurium, intubating condition, ED95 doses and histamine release.*

I INTRODUCTION:

Balanced anesthesia consists of triad of analgesia, amnesia and muscle relaxation. Skeletal muscle relaxation can be produced by deep inhalation anesthesia and neuromuscular blocking agents. NM blocking agents act on nicotinic receptors of neuromuscular plate. Neuromuscular blocking agents are an integral part of present anesthesia and are used commonly to stable neuromuscular blockade through variable surgical procedures (1-6).

They assistance intubations, mechanical ventilation, decrease anesthetic requirement, decrease oxygen use and prevent patient movement hence thorough knowledge of neuromuscular blockers especially pharmacokinetics and pharmacodynamics is compulsory.

Cisatracurium besilate is an intermediate duration non-depolarising NM blocking drug. It is more effective and cardiovascular stable than atracurium of still 8 times of ED95. The ED95 is 0.05mg/kg of cisatracurium (7-12).

Like atracurium, cisatracurium is metabolised by Hoffmann degradation to form laudanosine and monoquaternary alcohol. Hydrolysis by non-specific esterases is not significant pathway for cisatracurium elimation. histamine release not seen in humans. the metabolites of laudanosine is excretion by urinary and hepatic clear pathways thought it. Duration of action ,onset time and regain profile of cisatracurium will not effected gender . The use of inhaled gases (like isoflurane, sevoflurane) having increase the NM block compared with TIVA effects of cisatracurium (13-15) .

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II OBJECTIVES

II.I. PRIMARY OBJECTIVE:

To compare Intubating conditions three different dose of Cisatriacurium by 4 point method.

II.II. SECONDARY OBJECTIVES :

To compare

- Onset of action
- Duration of action
- Adverse effect

III METHODS:

Patients preoperative evaluation & airway assessment will be done and written consent will taken before to surgery. Patients will be premedicated with tablet Pantoprazole 40 milligram orally the night before surgery. After confirmation of nil by mouth status of 6 hours. Multipara monitors [ECG, Pulse oximeter, NIBP (Non invasive blood pressure), neuromuscular monitor] will be attached. Intravenous access secured and intravenous fluid started.The patients will be preoxygenated for 3 minutes with facemask. The Patient will be premedicated with intravenous Glycopyrrolate 4mcg/kg, Fentanyl 2mcg/kg or Butorphanol 0.05mg/kg , Midazolam 20mcg/kg. General anesthesia will be induced with injection Propofol 2mg/kg and after confirming mask ventilation the intubating dose of Cisatracurium 0.10mg/kg will be given in patients in group A , Cisatracurium 0.15mg/kg will be given in patients in group B,and Cisatracurium 0.2mg/kg will be given in patients in group c.

The Train of four count was assessed at adductor pollicis muscle using nerve stimulator and disappearance of all four twitches was observed in patient, this will be the onset of time of the drug. Orotracheal intubation will be done by sr.consultant and intubating conditions will be noted. After confirmation of bilateral air entery. Maintenance of anesthesia with oxygen and nitrous oxide in combination with inhalational agent sevoflurane through close circuit on volume controlled ventilation. Tidal volume of 5-8 millilitres/kilogramwill be maintained with respiratory rate adjusted to keep EtCO2 of 30-35 mm of Hg. Neuromuscular monitoring will be done and when the first twitch of TOF appeared, timing was noted which was the duration of action of the intubating dose of the respective drug.

STUDY DESIGN- Prospective randomised comparative study

SITE OF STUDY- Department of Anaesthiology JNMC, Sawangi (Meghe), Wardha.

SAMPLE SIZE:- 90 cases, n=30 in each group.

Number of patient per group= $2(Z(1-\alpha\backslash 2)+Z\beta)^2\times\sigma^2\div\Delta^2$

Δ=single of difference , minimal effect of interest

Now there are 3 groups,following formula is used

Number of patient per group= $3(Z(1-\alpha\backslash 2)+Z\beta)^2\times\sigma^2\div\Delta^2$

Data sources/ measurement : ONSET OF ACTION OF NEUROMUSCULAR BLOCKING DRUG- Time from Cisatracurium injection to disappearance of all four twitches in seconds.

Bias: Computer generated sequential numbers

Study size: 90 cases, n=30 in each group.

Number of patient per group= $2(Z(1-\alpha\backslash 2)+Z\beta)^2\times\sigma^2\div\Delta^2$

Δ=single of difference , minimal effect of interest

Now there are 3 groups,following formula is used

Number of patient per group= $3(Z(1-\alpha\backslash 2)+Z\beta)^2\times\sigma^2\div\Delta^2$

Statistical methods:

The data will be assemble and evaluated by using Graph pad instat software 3, statistical software. to quantitative data, student t test,qualitative data, fischers exact for test used.

P value will be determined.

IV EXPECTED OUTCOMES/RESULTS:

There will be conducted in attempt to found three intubating dosages of cisatracurium and observe hemodynamic effects by comparing certain parameter such as altered in MAP, HR following induction and any side effect like lowering BP and heart rate. The duration of action will be found to be shows longer duration for group C than group B & A.

Hemodynamic Variable:

Pre induction vitals will be comparable between the three group after post induction .There will be no statistically notice in etco2 and spo2.Changes in MAP and PR will be considered as deviation is >20% from pre induction values. Lower in MAP and PR will be noticed in the three group.

V DISCUSSION:

While choosing neuromuscular agent for tracheal intubation main aim of an anaesthesiologist is to be select an agent with immediate onset ,prolong duration of action, good hemodynamic stability and spontaneous reversal. Many articles related to different issues in this study were reviewed (16-77).

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