SUMMARY & CONCLUSION
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A clinical appraisal of pancuronium bromide has been made, to evaluate it's usefulness in elderly patients, at poor-risk due to pre-existing complications. A comparison with other two relaxants, Tubocurarine and Gallamine, in the same group of patients is also done.

Out of a total of 80 elderly patients (45 years & over) belonging to assorted ASA grades, pancuronium was used in 50 patients, including emergency cases. Tubocurarine and gallamine were used as relaxants in the remaining 30 cases.

ASA grading was done after thorough pre-anesthetic checkup and relevant clinical investigations had been performed. Pre-medication was done with intramuscular injection Atropine in most of the cases. Induction of anaesthesia was done with intravenous Inj. Thiopentone sodium in asleep doses. Intubations were performed with Summethonium in 50% of cases. For the remaining cases, non-depolariser relaxants were injected, prior to thiopentone in equipotent Intubating doses. Intubation time and Intubating conditions were recorded for comparison.
Maintenance of anaesthesia was done with narcotic analgesics (such as, pethidine and pentazocine), supplementary doses of non-depolarising relaxants, Oxygen: Nitrous oxide (3:5 L.) with IPPV in a semi-closed circuit (Mabulson - a circuit).

Muscle relaxant properties as onset of action, duration of apnoea and reversal of neuromuscular blockade were all recorded. Use: of various clinical parameters and a peripheral nerve stimulator (for response of adductor pollicis muscle) was made to monitor the neuromuscular blockade.

Monitoring of cardiovascular dynamics was done continuously in both intra-operative and post-operative periods. Recording of intra and post-operative complications was also made. In last of all, comparisons were done between various clinical parameters, in relation with ASA grades, and three relaxant groups. Their clinical and statistical significance was evaluated.

The following conclusions are drawn out of this trial in elderly patients with pre-existing complications:

(1) Pancuronium has a rapid onset of action. It
produces apnoea within 2 minutes and provides good intubating conditions within 3.5 minutes. Gallamine gave comparable results, tubocurarine took significantly longer duration to produce similar effect.

(2) Duration of action produced by pancuronium is dose-dependent. The 0.08 mg/Kg. doses produces apnoea duration of 37 minutes. This duration is significantly longer in elderly patients undergoing stress of emergency surgery.

(3) Gallamine in equipotent doses produced similar duration of neuromuscular blockade, whereas, tubocurarine produced significantly longer duration of action.

(4) Pulse rate and blood pressure were well maintained with pancuronium in most of elderly patients, although a definite rise was observed in few, where doses upto 0,1 mg/Kg. were used.

(5) Reversal with pancuronium was easy and prompt. No event of prolonged apnoea or recurarization was observed, even in cases with pre-existing renal diseases.

(6) Difficult reversal in two cases was observed, these were associated with electrolyte and acid-base imbalance.
(7) Cardiovascular stability was maintained in major surgical procedures with marked loss of blood, some of these lasting over 240 minutes.

(8) Elderly patients undergoing emergency surgical interventions were well maintained with use of pancuronium despite of their low general conditions and shock.

(9) In majority of the patients with pre-existing cardiovascular complications, the intra and post-operative alteration in cardiovascular dynamics were minimum. Where, gallamine produced marked elevation in pulse rate and blood pressure. Tubocurarine produced highly significant fall in blood pressure.

(10) Hypertension may be precipitated in some cases with the use of pancuronium. Also in cases with electrolyte and acid-base imbalance, arrhythmia may occur during the use of pancuronium.

(11) Histamine release was absent with use of pancuronium, even in patients of pre-existing respiratory complications e.g. Bronchial asthma. All patients of such pre-existing respiratory complications were adequately ventilated and no event of post-operative respiratory insufficiency was observed.
(12) Intra-operative and post-operative complications were minimum and cardiovascular dynamics was well maintained throughout in most of elderly patients there were with pre-existing complications such as; anaemia, malignancies, obesity, endocrinal disease etc.

(13) The post-operative events, of bradycardia in few patients and one post-operative death were not attributable to the use of pancuronium.