INTRODUCTION
For more than a century it has commonly been accepted that general anaesthesia can safely protect an organism from surgical pain only if cortical and subcortical centres are effectively depressed. The efficacy of agents used to produce such an anaesthetic state has been judged according to how fast they could induce optimal cerebral depression, with minimum circulatory, respiratory and metabolic derangements and how readily their effects can be overcome.

Laborit (1939) first drew attention to the need for revising the old conventional approach to general anaesthesia by introducing a new concept on selective blocking of certain cellular, autonomic and endocrine mechanism normally activated as a response to stress. Drug combination capable of causing such multifocal inhibition were used to produce a state of rest in such structures as the cerebral cortex, the diencephalon, certain hormonal relays and various ganglionic and terminal synapses. Naturally this artificial hibernation was often marked by circulatory depression resulting from induced homeostatic imbalance.

The search for other means of selectively blocking the efferent system involved in surgical stress has led to increased emphasis on the possibility of combining analgesic agent with agents that suppress vegetative reflexes,
It is an old and steady effort of pharmacologists to produce such anaesthetic drugs of selective action, free from toxic effects and having minimum side effects, easy to control, which can widely be applied to anaesthesia in diagnostic and therapeutic interventions.

After Jansen (1962) introduced a series of highly potent analgesic and neuroleptic agents in 1958 an anaesthetic technique was evolved, called 'NEUROLEPTANALGESIA'. This renders the patients free from pain without affecting certain areas of the central nervous system that are blocked in orthodox anaesthesia.

The term Neuroleptanalgesia was proposed by De-Castro and Mundaier (1959) to describe a state of indifference and immobilization produced by combined administration of the neuroleptic drug Haloperidol and the narcotic analgesic Phenoperidine.

Neuroleptanalgesia is a method of general anaesthesia, differing significantly from the classical anaesthetic technique both in their mechanism and appearance. The function of cortex directing the perceptive and conscious activity, does not cease under the effect of the neuroleptic agent administered in combination but the patient would become completely insensible in relation to the events with and around him. The pain sensation together with its reflex
consequences stops under the effect of strong analgesic agent. The state of so called 'mineralization' brought about by the drug combination, suits excellently to carry out any diagnostic procedure or surgical intervention even if the patient's cooperation is required.

Patients who receive Nitrous oxide and oxygen in addition to neuroleptic and analgesic drugs not only become analgesic and sedated but also lose consciousness or in other words become anaesthetised. The term neuroleptanaesthesia was proposed by Polács and Kepes (1966) to characterize the state of these patients.

Neuroleptanaesthesia has been in clinical use since its introduction by De-Castro and Mundalear in 1959. During this period Droperidol, Fentanyl and Pentazocine have been synthesised and significant advances have been made in understanding neuroleptanaesthesia both physiologically and pharmacologically.

As compared to conventional method of anaesthesia, neuroleptanaesthesia has been claimed to have minimal systemic toxicity, hepatic functions are not adversely affected (Boyer and Tormetta, 1964) and renal blood flow is increased (Guerino, 1966). There are no observable effects on electrolyte, metabolic acid base balance (Dobkin et al, 1964) and intestinal function (Bergmann, 1965), with the advent of absolutely safe antidote-
Nalorphine in case of Fentanyl, Domperid in Pentazocine and antiparkinsonism agents in case of the very infrequent extrapyramidal side effects of Droperidol, this technique shows good reversibility and therefore controllability of depth of anaesthesia and has gained much popularity.

Striking cardiovascular stability, seen as a short phase of stabilisation after induction, followed by a phase of circulatory stability is maintained throughout anaesthesia (Buhr and Henshel, 1966). As a consequence of alpha-blocking action of Droperidol (Schapitz et al, 1963), the peripheral resistance is reduced resulting in a good peripheral perfusion which counteracts the development of metabolic acidosis even in the operation of very long duration.


Inspite of high potency and wide safety margin because of high therapeutic index, this technique has disadvantage of significant departure from the most widely practiced technique of balanced anaesthesia, which is easiest for the anaesthesiologist, convenient for the Surgeon but not always in the patient’s best interest.
Respiratory depression and ventilatory difficulty are other drawbacks of using this technique but as reported by Foldes et al (1970) the untoward effect of respiratory depression can be overcome by assisting patients spontaneous breathing equivalent to preinduction level, The ventilatory difficulty, can be prevented by very slow infusion of Fentanyl and if it occurs, can be corrected by muscle relaxants (Cerasen G, 1966).

Increased expiratory tone and tracheal constriction can also be overcome with narcotic antagonist (Henschal, 1966) like Nalorphine but narcotic antagonist also counteracts to variable extent narcotic induced analgesia and hypnosis and their administration causes a sudden decrease in the level of anaesthesia. To minimize this, the smallest dose of antagonist capable of reestablishing spontaneous ventilation should be used.

The effects of Droperidol is very long lasting (upto 36 hours) therefore even during the postoperative period the neuroleptic effect persists and often make patient feel uncomfortable, Desired mobilisation of patients after certain operation may be delayed by drowsiness, apathy and orthostatic circulatory dysfunction. This undesirable effect may be some what prevented by using only low doses of Droperidol (0.15 mg i.v.) and by avoiding repeated injection.
However in these cases intraoperative neuroleptais may be insufficient specially if the patient is young and vigorous (Kreuscher, 1973).

Although much work has been done so far on neuroleptanalgesia and analgesia in foreign countries but there is paucity of such studies on Indian subjects. These neuroleptanalgesia agents have recently been introduced in India by Thenis Chemicals Ltd.

Keeping in view of the above mentioned advantages and disadvantages it was considered worthwhile to study the cardiopulmonary changes, stability, effectiveness and utilization of Droperidol, Fentanyl, Pentazocine along with their adverse effect if any on healthy patients undergoing major surgery.