

## **Introduction**

The idea behind preemptive analgesia is to head off pain by blocking the central nervous system's response before surgery occurs, As it prevents the development of central sensitization caused by incisional and inflammatory injuries.

Preemptive analgesia is an antinociceptive treatment that prevents the establishment of altered central processing which amplifies postoperative pain.

The prevention of postoperative pain is based on two phenomena:

1. The effective blockade of noxious stimuli generated during surgery and during the initial postoperative period (inflammatory phase) reduces subsequent postoperative pain (phenomenon of preemptive analgesia).
2. An antinociceptive treatment started before surgery is more effective in the reduction of postoperative pain than the treatment given on recovery from general anesthesia.

It was found that both phenomena can be achieved by neural blockade with local anesthetics, systemic and epidural opioids.

## **Aim of the Work**

This study was done to compare the preemptive analgesia with tramadol given either by intramuscular, intravenous or epidural before skin incision, in addition to general anesthesia without narcotics to patients undergoing elective lower abdominal surgery on the postoperative first request for analgesia, pain scores, glucose , stress hormones (thyroxin and cortisol), blood pressure ,heart rate and O2 saturation .