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# The role of short-acting drugs in modern anaesthesia

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Short-acting medications are usually desirable in modern clinical anesthesia practice. They allow rapid recovery at the end of surgery, proper assessment the level of consciousness, minimal residual effects, preserving the cognition dysfunction and patients satisfaction. For a balanced anaesthesia technique, combinations of intravenous anesthetics, inhalational anesthetics, benzodiazepines, opioids, a muscle relaxant and adjuncts are usually used. The available short acting medications include propofol, remifentanil and dexmetomidine and the inhalation anesthetics. Propofol: It is chemically described as 2,6- di isopropylphenol, insoluble in water, it is formulated in a white, oil-in-water emulsion. Its anaesthetic properties were first reported in January 1973, introduced to clinical practice in Europe in 1983 and in the United States in 1984. Similar to other intravenous anesthetic agents like benzodiazepines and barbiturates, propofol exerts its hypnotic actions by activation of the central inhibitory neurotransmitter, Gamma-Aminobutyric Acid (GABA). Propofol is used for induction and maintenance of anaesthesia, procedural sedation and for short term sedation in intensive care units. Because of its short action, it is used by infusion and Target Control Infusion (TCI) using a special infusion pump. Remifentanil: It is an opioid agonist, the chemical name is 3-[4- methoxycarbonyl-4-[(1-oxopropyl) phenylamino]-1-piperidine] propanoic acid methyl ester, hydrochloride salt. Remifentanil is administered at an infusion rate of 0.5 to 1 mcg/kg/min with a hypnotic or volatile agent for the induction of anaesthesia. It is used in almost all types of surgeries and for sedation in critical care units. Due to the rapid offset of action, no residual analgesic activity will be present within 5 to 10 minutes after discontinuation. For patients undergoing surgical procedures where post-operative pain is generally anticipated, alternative analgesics should be administered prior to discontinuation of remifentail. Dexmedetomidine: It is a highly selective ?2-adrenergic receptor agonist that is associated with sedative and analgesic sparing effects, reduced delirium and agitation, perioperative sympatholysis, cardiovascular stabilizing effects and preservation of respiratory function. The recommended dose range of 0.2 to 0.7 ?g/kg/hr administered as intravenous infusion up to 24 hours. Because of its unique properties offers its promising use in wide spectrum of clinical settings and ICUs. It is a part of fast-tracking anesthesia regimens and offers anaesthetic sparing and hemodynamic stabilizing effects.

**Biography:**

Yasser Zaghloul MBBCH, Ms Sc, MD PhD, FCARCSI (Ireland) - The Current position is Consultant of Anesthesia; Sheikh Khalifa Medical City – Abu Dhabi –UAE. The Director of Abu Dhabi Anesthesia Club and Anesthesia Refresher Course and also Lecturer and instructor in the following international courses: FCCS, PFCCS, ENLS, Airway Management, Critical Care Nephrology and mechanical ventilation courses. The Previous work is Consultant of Anesthesia & ICU in Ireland. Did the Graduation in 1986 from Faculty of Medicine, Alexandria University – Egypt. He has been trained in anesthesia and critical care medicine in both Egypt and Ireland. He has extensive experience and interest in neuro-anaethesia & neurocritical care, neonatal & pediatric anesthesia and perioperative medicine. He have delivered more than 160 lectures in international anesthesia, pain & ICU conferences