

12<sup>th</sup> International Conference and Exhibition on **Pharmacovigilance & Drug Safety**  
&  
22<sup>nd</sup> International Conference and Exhibition on **Pharmaceutical Formulations**  
&  
21<sup>st</sup> Euro-Global Summit on **Toxicology and Applied Pharmacology**

July 04-06, 2019 Valencia, Spain

### **Intravenous opioids for acute postoperative pain control: Comparative study**

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**INTRODUCTION:** Optimal pain management is crucial to the postoperative recovery process. Previous studies showed that the majority of surgical patients experienced inadequate analgesia, with over 80% reporting moderate to severe pain [1]. Actually, ineffective postoperative pain control may delay recovery, early mobilization and tissue healing [2]. While effective postoperative pain management improves patient satisfaction and enhance tissue healing and early discharge [3, 4].

**AIM OF THE STUDY:** The aim of this study is to compare the efficacy and safety of the intravenous opioids: morphine, fentanyl and sufentanil when used by PCA (patient controlled analgesia) for acute postoperative pain managements.

**METHODS:** After approval of the ethical committee of the Minia University Hospital, all patients were consented to be enrolled into this study. During the period from January (2018) to January (2019), a total number of 90 adult male and female patients were included into this study. They were randomly allocated into 3 equal groups (each = 30 patients) according to the type PCA-iv strong opioids: Morphine, fentanyl or sufentanil. Patients were observed and data collected by the acute pain service team during the first 24 hours after surgery. The efficacy parameters included onset of action, duration of analgesia, opioid consumptions, pain score by 11 point (VAS), and patient's satisfaction. While the safety parameters included nausea, vomiting, sedation, respiratory depression and pruritus.

**RESULTS:** Results showed that the overall analgesic consumption was lower with morphine than with fentanyl or sufentanil ( $P < 0.05$ ). Morphine exhibited better analgesic efficacy than fentanyl and sufentanil. The onset of action was relatively rapid with fentanyl and sufentanil ( $P < 0.05$ ) and the duration of action was shorter compared to morphine ( $P < 0.05$ ). Where patient satisfaction was evaluated and showed higher satisfaction levels were observed with morphine than the other two opioids and comparable satisfaction was noted when comparing fentanyl with sufentanil. Regarding the safety parameters, there was a higher incidence of nausea and sedation with morphine than with fentanyl and sufentanil ( $P > 0.05$ ). But the incidence of vomiting, excessive sedation and pruritus were minimal with no significant difference between the study groups ( $P > 0.05$ ). No events of respiratory depression were noted in any group except mild and transient decrease in oxygen saturation in few patients in sufentanil group (13.33%) without further interventions.

**CONCLUSION:** Results of the current study suggest that intravenous morphine by PCA provides better analgesic efficacy compared to fentanyl and sufentanil, with tendency to less side effects in fentanyl group.