Abstract

Our study was performed on 60 adult female patients of ASA1or II physical statuses undergoing total abdominal hysterectomy. They were divided into 3 groups AA, AG and GG groups after genotyping. Of the 60 patients, 28 patients were wild type homozygote (AA), 22 patients were heterozygote (AG) and 10 patients were mutant homozygote (GG).

All patients received general anesthesia, 30 minutes before the completion of surgery, a loading dose of fentanyl 1µg .kg $^{-1}$ was given intravenously and all patients were receiving fentanyl by PCA.

A registered nurse was requested to assess the following: vital signs, pain, sedation and rate and quality of respiration.

The following was monitored during the 24 hours of the study: Pain was assessed using a visual analogue scale and fentanyl consumed in the first 24 h after surgery , sedation score, blood pressure, heart rate, oxygen saturation (spo2),nausea ,vomiting and other side effects of opioids.

Our main finding is that, in Egyptian gynecological patients, subjects with the 118G allele were more sensitive to pain and needed more fentanyl for analgesia than 118A homozygotes. This provides support for the potential use of genetic data in predicting fentanyl doses for adequate postoperative pain control.

Postoperative nausea and vomiting are common side effects of general anesthesia, and patients undergoing hysterectomy are especially prone to them. The incidence of nausea & vomiting in our study was only 28%&16.7%. However, there was no statistical difference in its incidence among three groups, although group G／G consumed more fentanyl than the others and there was no correlation between fentanyl consumption and postoperative nausea and vomiting.

Key words: **fentanyl, polymorphism, total abdominal hysterectomy, analgesia, nausea, vomiting, PCA.**