

EFFECT OF OPERATION END TIME ON THE CIRCADIAN PATTERN OF SELF-ADMINISTRATION OF ANALGESICS

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Background: Our question was whether the diurnal pattern of postoperative pain is influenced by time of the operation completed. We evaluated the changes of circadian pattern of pain using patient-controlled analgesia (PCA).

Methods: Under the IRB approval, we collected the data from the patients who received orthognatic two-jaw surgery. Total 91 adult patients satisfied the inclusion criteria and were divided into two groups (Group1: operation ended between 12:00PM and 4:00PM, Group2: operation ended between 6:00PM and 8:00PM). The combination of 700 µg fentanil and 150 mg ketolorac was diluted to 120 ml normal saline and connected to the PCA device. Basal infusion rate was set to 1.0 ml/h, with bolus dose set to 1 ml, and lock-out time set to 15min. After 3 day infusion, we compared the frequency of pressing the buttons of PCA device as an hour basis among two groups.

Results: The number of patients who pressed the buttons in an hour basis decreased according to time and the most frequent time was from 2:00 to 3:00PM in Group1 (n=45) and from 8:00 to 9:00PM in group2 (n=46) ($P < 0.05$). However, one day after surgery, the frequency of pressing the buttons and the percentage of patients using the buttons were not different to each group ($P > 0.05$). Tendency of pressing the buttons was highest between 9:00AM to 10:00AM in both groups.

Conclusions: One day after surgery, the tendency of requiring the analgesics showed the uniform diurnal pattern in both groups who had different operational schedules.