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BODY Text

A STUDY ON CURETTAGE PAIN AND HEMODYNAMIC PARAMETERS OF CURETTAGE PATIENTS: KETAMINE OR TRAMADOL?

Introduction

Revisioncurettageare a widespreadambulatorytreatment in obstetricsandgynecology.Aftertreatment ,patiensare sent homewithinsameday of thetreatment. Duringtreatmentmay be severe pain.Probe curettage performed for diagnosis and treatment comprises the majority of minor gynecological interventions (1). Thus, the drugs are introduced need to provide necessary anesthetic depth and to create rapid, sufficient anesthesia, and recovery period has to be short (2,3). Revision curettage is a normal procedurewidespreadlyusedforfirst-trimesterpregnancyterminations.

Aim from the study is comparison with hemodynamics, total consumption of propofol, pain scores during procedure, recovery period following procedure of ketamine and tramadol that are used in patients that dilatation and curettage have been performed to. Thestudywas put throughtodeterminewhetherthemergedapplicationof tramadol (1 µg/kg) andpropofolorketamin(0.5 mg/kg) andpropofolwouldshowlikeriches in supplyingenoughanalgesia, andsuffererandoperatör pleasure, followingin a comparablerescueedge.

Material and Method

This is a retrospective study thatcarry out in Dr. FarukSükanDoğumevi ethics was obtained from ethics committee(2015/186) approval. 100 patients aged of 18-60 which have been applied uterine curettage and dilatation between January-July 2014 have been involved in the study. Patients were at group 1-2 according to classification of American Society of Anesthesiology (ASA). Those with severe hepatic, renal and cardiovascular disease and with uncontrolled hypertension, disease related with central nervous system and musculoskeletal system, those using calcium-channel blockers, anticoagulants, antidepressants and anti-psychotics, those that have history of neurological disease or cardiac operation, those with alcohol or drug addiction and those who are morbid-obese (body mass index >30)have been excluded from the study.

Data of patients involved have been recorded by scanning of patient files and anesthesia follow-up forms.

Patients have been investigated as two different groups. Standard heart beat rate, monitorization of blood pressure and peripheral oxygen saturation have been applied to all patients. Intravenous (IV) vascular access has been established, and 0.9% NaCl infusion with rate of 10 ml/kg /h has been started. Patients have been followed-up with face mask as they are with spontaneous breathing and given 3 lt/min oxygen. For all patients, propofol with dose of 1 mg/kg IV has been introduced for induction. Patients which have been applied 0.5 mg/kg IV of ketamin before beginning of operation have been called as Group 1 and those who have been applied 1.1 mg/kg IV of tramadol have been called as Group 2. During operation 0.5-1 mg/kg IV of propofol have been introduced in case of need. During operation, heart beat rate, peripheral oxygen saturation, pain score, values of sedation score and aldrete scores in which anesthesia recovery period is recorded have been compared. In case which analgesic effect is

insufficient, additional analgesia has been introduced.Heart beat rate (HBR), systolic artery pressure (SAP), diastolic artery pressure (DAP), mean arterial pressure (MAP) and oxygen saturation values (SpO_2) have been recorded before anesthetic induction, after induction and during anesthesia.

Statistical analyses were done using SPSS 15.0 In statistical evaluation, student t-test have been draw on demographical output. Also for pain score, sedation score, aldrete recovery score and total propofolconsumption,and student t-test has been used. Data has been recorded as mean +/- standard deviation. $P<0.05$ has been acknowledged as remarkable.

Results

There were 100 patients related involvedin this study. At what time the structure of population input, (age, weight, height), ASA risk classification as well duration of treatment from both groups were similar. Anesthesia applied, duration of procedure and amount of propofol used of both groups were also similar. Between values of both groups, there was no statistically remarkable distinction. (Table 1).

Conclusion

Effectivepainmanagementanduselittle drog an importantcomponent of ambulatoryanesthesia.

Gynecologicalpatientshavethehighestunplannedacceptanceratio in ourhospital (90 %) duetoourhospital is gynecologyandchildhospital. Unsuccessfulbadlycontrolledsoreness,post-operativenauseaandvomiting (PONV), andsharpurinaryretentionarereasonsresulting in retardation in

exhaustionpatientslaterportablegynecologictreatmentspeciallyforrevisionfinale treatment.

In the study of ŞahinS.and all indicatesthattheanalgesicpropertiesandrescueedge of intravenousparacetamol is as effective as fentanylat what time former inrevisionterminationtreatments.(13)

Theyhaveindicatedthattheanalgesicmarksandusefulness of IV paracetamolaresimilartothose of IV fentanyl in revisionterminationprocedures. Inthoseworking, noremarkablecontroversieswerefoundbetweenthe 2 groups in terms of 60-minute VAS resultsandtheydid not analyzeanyinverseproperties.

Propofol is preferred in short procedures due to its rapid action time, ending of its anesthetic and sedative effects rapidly . However, for optimal success, high dose is necessary. In such cases, it can cause side effects such as hypotension, bradycardia. Therefore, it should be combined with other drugs (4).

Ketamine is a dissociative anesthetic and an agent with amnesive and analgesic effects. Along with these, it has potent analgesic and slight hypnotic effects. Currently, it doesn't have an important side effect regarding respiratory and cardiovascular entities. While it is being used, airway patency can be achieved easily with preservation of tidal volume. Due to its bronchodilator effect, it is preferred especially for asthmatic patients .

Recently, tramadol has started to be used for analgesia in curettage and dilatation procedures . Tramadol, when compared with other opioids, is a nonopioid agent that causes slight respiratory depression and provides long-term analgesia (5,6).

In group 2, heart beat rate at end of operation and SAP at 0^{th} minute have been found to be significantly higher compared to Group 1 ($p<0.05$). Apart from this, no difference between both groups in terms of blood pressure values and SpO_2values have been determined (Table 2).

When groups are compared in terms of age, weight, height, ASA risk classification and duration of operation, there is no statistically significant difference has been determined. In group 2, heart beat rate at end of operation and SAP at 0^{th} minute have been found to be significantly higher compared to Group 1. In Group 1 sedation mark was higher than Group 2. Additionally, pain score at 5^{th} and 10^{th} minutes were higher than Group 1. In both group no complication has been observed. Aldrete score-reaching time to be less than 5 minutes were same for both groups.

Group 1. In Group 1 sedation score was higher than Group 2. Additionally, pain score at 5^{th} and 10^{th} minutes were higher in Group 1. In both group no complication has been observed. Aldrete score-reaching time to be less than 5 minutes were same for both groups (Table 3).

Discussion

In this study, we have compared analgesic effects of ketamine and tramadol in dilatation and curettage procedures.This study, demonsrates that 1mg/kg tramadol safe and effective intravenous poor opioid analgesic for the treatment of postoperative pain management in patients recovering from dilatation curettage procedure. As well as analgesic effects of both agents are similar, in the group at which tramadol has been used, the hemodynamics was more stable and respiratory depression was found to be less. Also in our study, heart beat rate following the operation significantly decreased

more in group of Ketamine, as to support this situation. Similarly systolic artery pressure at the time of induction of both drugs was significantly less in group of Ketamine. All of these have been showing that tramadol has better results in terms of hemodynamic stability in day-case anesthesia.

Propofol is the most popular intravenous sedative-hypnotic agent of the group of 2,6-diisopropophenol. Being of beginning and ending of its effect rapidly is important especially in painful short interventions such as dilatation and curettage procedures (7). However propofol provides ideal sedation, in painful procedures it requires additional analgesics. These are agents such as Fentanyl, alfentanyl, remifentanyl, nalbufine, tramadol and ketamine (8,9). It is important for the chosen analgesic agent not to cause respiratory depression in short-lasting procedures, to have shorter recovery period and to provide a stable hemodynamics. The reason for us to chose tramadol and ketamine in our study is our wish to investigate such effects of the agents in patients that are being sedatized.

Tramadol is a centrally active synthetic agent. It takes its effect via two different synergistic mechanisms. One of these is weak opioids agonistic effect by selectively influencing mü – receptors, and other one is by re-uptake inhibition of noradrenalin and serotonin. Actually as tramadol makes less sedation and is unable to suppress respiration sufficiently as in the literature, this creates a favorurable situation during short-lasting surgical procedures. In addition to this, side effects of this agent such as nausea and vomiting are mentioned(10). In the study conducted by Taş et.al (11), propofol-fentanyl and propofol-tramadol were compared in patients that had dilatation and curettage. Researchers have found similar analgesic features, but they concluded that tramadol had less effects on respiration and so it could be safe. Also in our study,

sufficient anesthesia was achieved with tramadol and no side effect has been observed. In patients that we used tramadol, sedation level to be superficial and a more stable hemodynamics show accordance with the literature. However, we haven't encountered with a side effect such as nausea or vomiting. In this situation may occur with contribution of the dose of used drug to be low.

Ketamine is an antagonist of N-methyl-D-aspartate receptors. Functionally, it provides dissociative anesthesia by dissociation of thalamus from limbic. It has amnesic and analgesic effects. It does not have serious side effects effecting respiratory and cardiovascular functions (7).

For the patient who will undergo for dilatation and curettage, not feeling pain, not to remember, not to have pain following procedure are desired situations. Day-case sedoanalgesia is being chosen because it also provides more comfortable working by physician who will conduct the procedure and minimalizes the movements of patient. In the study conducted by Tong et.al, general anesthesia and local anesthesia during hysteroscopy and dilatation-curettage were compared, patients and physicians chose the general anesthesia. Painlessness both during and after procedure, the physician to work comfortably have made day-care sedoanalgesia more commonly used (10). Therefore, we have preferred dilatation and curettage procedure under sedation. For this purpose, propofol, ketamine, opioids, tramadol and non-steroid analgesics have been used for sedation (7).

Opiods that are used for analgesia are not common in day-case procedures because it causes respiratory depression, itching, and has long-lasting recovery period (11). In this study, we compared tramadol and ketamine which are similar in terms of analgesic

efficacy and both have short recovery periods. Because the amount of propofol used influences recovery and return to daily life following day-case anesthesia, we have investigated effects of both agents on total propofol need, on pain and recovery scores. The reason of us in preferring these agents is that for day-case anesthesia procedures the agents with rapid action times and least respiratory effects. In our study, as being accordant with the literature, no hemodynamic instability has been observed in any of the patients, no respiratory depression that needed to be intervened has been experienced. In this situation may occur with contribution of the dose of used drug to be low.

Conclusion

Ketamin and tramadol are similar in terms of analgesic efficacy and total consumption of propofol. For day-case anesthesia procedures, when patient safety is considered, tramadol can be preferred because of its minimal effect on hemodynamic parameters, rapid recovery period and less side effects. Studies with larger patient serials are necessary for more stable opinions regarding this issue.

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