

Anesthetic Effect of Compound Artevacaine Hydrochloride in Patients Undergoing Oral Implantation

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Abstract: *Objective:* To investigate and analyze the anesthetic effect of compound artevacaine hydrochloride in patients undergoing oral implantation. *Methods:* In this study, 60 patients receiving oral implant surgery in our hospital were selected as the research subjects, and the operation time was from July 2019 to March 2021. Patients were randomly selected and divided into groups for the study. 30 patients receiving lidocaine hydrochloride anesthesia were used as the control group, and 30 patients receiving compound artevacaine hydrochloride anesthesia were used as the research group. The anesthetic effect and safety of the two groups were compared and analyzed. *Results:* The anesthetic effect of the study group was significantly better than that of the control group ($P < 0.05$). The blood pressure and heart rate in the study group were significantly lower than those in the control group ($P < 0.05$). There was no significant difference in blood pressure and heart rate between the two groups before anesthesia ($P > 0.05$). There was no significant difference in the incidence of ADR between the two groups ($P > 0.05$). *Conclusions:* For patients undergoing oral implant surgery, choosing compound artevacaine hydrochloride as anesthetic drug has obvious anesthetic effect and can stabilize patients' life indexes. The anesthetic effect is obvious, and there is no obvious adverse reaction, and the clinical value is obvious.

Keywords: Dental implantation; Compound artevacaine hydrochloride; Life index; Lidocaine hydrochlorid

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1. Introduction

With the development of social economy and the improvement of residents' living standard, more and more patients choose oral treatment in order to improve the quality of life and oral image^[1]. Oral implant repair is widely used in the oral cavity, but it is also found that some patients refuse to accept oral implant treatment due to pain in the process of repair. Therefore, more attention is paid to the pain management of surgery in oral clinic. Compound artevacaine hydrochloride is a new kind of anesthetic, which has good anesthetic effect and oral anesthetic effect^[2]. In this study, the anesthetic effect of compound artevacaine hydrochloride in patients undergoing oral implant surgery was investigated and studied.

2. Materials and methods

2.1. General information

In this study, 60 patients who received oral implant surgery in our hospital from July 2019 to March 2021 were selected as the research objects. Patients were randomly selected and divided into groups for the study. In the study group, there were 30 patients, including 16 males and 24 females, with an average age of (38.56 ± 2.24) years old. In the control group, there were 30 patients, including 12 males and 18 females, with an average age of (38.47 ± 2.39) years. Before participating in the study, patients need to conduct basic

data registration and data statistics, and the result is $P > 0.05$ before starting the study. Patients provided personally signed information and consent to participate in the study.

2.1.1. Inclusion criteria for patients

- (1) Patients with dentition defect and receiving oral implants
- (2) The patient has no other serious extrusion disease
- (3) Patients have a high degree of cooperation in the study.

2.1.2. Exclusion criteria for patients

- (1) Patients requiring complex surgical treatment, such as maxillary fenestration
- (2) The patients did not meet the relevant indexes of oral implantation surgery
- (3) Abnormal coagulation function exists in the patient
- (4) Patients with other serious diseases
- (5) Patients with mental illness, or cognitive dysfunction.

2.2. Research Methods

30 patients in the control group received lidocaine hydrochloride (Chinese drug approval: H37022839), and 30 patients in the study group received compound artevacaine hydrochloride (Chinese drug approval: H20110264). According to different patient conditions, block anesthesia or local infiltration group was selected, and slow injection of drugs was performed on the labio-buccal, linguo-palatine and the lower part of alveolar spinal periosteum in the surgical design. Nerve block anesthesia was used for the mandibular posterior area. Lidocaine hydrochloride (2%) 5ml was routinely used in the control group, and compound artevacaine hydrochloride for local infiltration in the study group.

2.3. Research Indicators

Vital indicators of patients in the two groups were detected and compared at different time points, including before anesthesia, during surgery and after surgery. The anesthetic effect of patients in the two groups was comprehensively evaluated, and the occurrence of adverse reactions was recorded ^[3].

2.4. Statistical analysis

Statistical software SPSS 22.2 was selected as the data processing tool, in which the counting data was expressed as (%), and the test was X^2 calculation. The measurement data was expressed as $(\bar{x} \pm s)$, and the test was calculated as t , $P < 0.05$.

3. Results

3.1. Comparison of vital indicators before, during and after anesthesia between the two groups

As shown in **Table 1.**, intraoperative and postoperative blood pressure and heart rate in the study group were significantly lower than those in the control group ($P < 0.05$). There was no significant difference in blood pressure and heart rate between the two groups before anesthesia ($P < 0.05$).

3.2. Comparison of anesthesia effect between the two groups

As shown in Table 2, the anesthesia effect of patients in the study group was significantly better than that of patients in the control group ($P < 0.05$).

3.3. Comparison results of the incidence of adverse reactions between the two groups

As shown in Table 3, there was no significant difference in the incidence of ADR between the two groups ($P > 0.05$).

Table 1. Questionnaire for the comparison of vital indicators between the two groups before, during and after anesthesia ($\bar{x} \pm s$).

Project	Time	Systolic blood pressure (mmhg)	Diastolic blood pressure (mmhg)	Heart rate (times /min)
Research Group (n=30)	Before anesthesia	143.26 +/- 5.45	81.26 +/- 5.21	65.11 +/- 4.43
	Intraoperative	134.25 +/- 5.26 ^a	74.26 +/- 4.26 ^a	60.26 +/- 4.26 ^a
	Postoperative	129.26 +/- 4.33 ^a	71.25 +/- 3.26 ^a	58.18 +/- 4.21 ^a
Control group (n=30)	Before anesthesia	143.62 +/- 5.17	81.65 +/- 5.33	64.56 +/- 4.49
	Intraoperative	137.26 +/- 5.24	78.26 +/- 5.06	63.26 +/- 5.06
	Postoperative	131.25 +/- 5.23	75.26 +/- 4.25	61.26 +/- 4.95

Note: compared with the control group, $P^a < 0.05$.

Table 2. Questionnaire for comparison of anesthesia effect between two groups of patients [n (%)]

Project	Completely	Effective anesthesia	Invalid	To be efficient
Research group (n=30)	20 (66.67)	10 (33.33)	0 (00.00)	30 (100.00)
Control group (n=30)	18 (60.00)	8 (40.00)	4 (20.00)	26 (80.00)
X^2	-	-	-	4.2857
P	-	-	-	$P < 0.05$

Table 3. Questionnaire on incidence of adverse reactions in patients of the two groups [n (%)]

Project	Dizzy	Heart palpitations	Other	The incidence of
Research Group (n=30)	1 (3.33)	1 (3.33)	0 (00.00)	2 (6.67)
Control group (n=30)	1 (3.33)	0 (00.00)	2 (6.67)	3 (10.00)
X^2	-	-	-	0.3815
P	-	-	-	$P > 0.05$

4. Discussion

Oral implantation is a common operation in oral surgery, which has been recognized by doctors and patients. Through dental implant repair treatment, patients' teeth can be repaired, improve chewing function and

aesthetic effect, and effectively improve the quality of life of patients. At present, implant repair has become a common method to treat tooth defects. However, as a surgical treatment, although less invasive, some patients are afraid of oral implants or have serious postoperative complications due to the development of intra-oral and peripheral pain. Based on the above reasons, some patients have insufficient cognition of the operation, which affects the treatment of patients. In order to improve the acceptability of implants, it is necessary to reduce the safety of pain and improve surgery [4].

Atenolol compound hydrochloric acid because of the main components in hydrochloric acid for paid, and the two kinds of adrenaline, apply to oral local anesthesia treatment, because of the bureau of the anesthetic in amide groups, so it can effectively block the nerve fibers, nerve conduction, and give play to the clinical effect of anesthetic sedative, at the same time, the study also found that compound for paid to the drug efficacy of peak time is shorter, It has a long half-life especially and is eventually metabolized by the liver^[5]. The results of this study showed that the anesthetic effect of the study group was significantly better than that of the control group ($P < 0.05$); The pain was relatively mild due to the inhibitory effect of compound artevacaine hydrochloride over lidocaine. To the extent that the patient does not feel pain during the operation, the patient's stress response is reduced due to the emotion caused by the pain. Patients can perform surgery in increasingly comfortable conditions, significantly reducing the production of adrenaline, reducing fluctuations in blood pressure and heart rate, and maintaining them at a certain level. The blood pressure and heart rate in the study group were significantly lower than those in the control group ($P < 0.05$). There was no significant difference in blood pressure and heart rate between the two groups before anesthesia ($P < 0.05$). This is mainly because compound artevacaine hydrochloride contains not only artevacaine but also adrenaline, which can resist the effect of artevacaine on blood pressure and keep heart rate at a certain level, so as to reduce the impact of heart rate and blood pressure on the smooth operation. There was no significant difference in the incidence of ADR between the two groups ($P > 0.05$). Compound lidocaine is a kind of local anesthetic amides, which has weak penetration ability and poor effect in local infiltration anesthesia. As a new kind of anesthetic, compound artevacaine hydrochloride has been widely used in clinic. Compared with Lidocaine hydrochloride, it has a series of advantages such as fast, good anesthesia effect and less adverse reaction. In addition, due to its strong permeability, it has a good anesthetic effect on inflammatory tissues, can significantly reduce the pain of pericoronary irrigation, prevent the physiological fear of patients, and thus ensure the smooth progress of treatment. Meanwhile, it has a high value for patients' postoperative recovery.

In conclusion, for patients undergoing oral implant surgery, choosing compound artevacaine hydrochloride as anesthetic drug has obvious anesthetic effect and can stabilize patients' life indicators, with obvious anesthetic effect, and no obvious adverse reactions, indicating obvious clinical value

Disclosure statement

The author declares no conflict of interest.

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