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# Clinical Control and Study of Bleeding after Tooth Extraction

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**ABSTRACT** **Objective:** To explore the clinical prevention and treatment of hemorrhage after tooth extraction. **Method:** Between March 2013 and April 2014, 352 patients in our hospital experiencing hemorrhage after tooth extraction were observed with the clinical data retrospectively analyzed and the causes of bleeding summarized. A specific control scheme was developed. 148 patients were selected from July 2014 to August 2015 in our hospital for tooth extractions. Patients were randomly divided into two groups, the observation group and the control group, consisted of 74 patients in each group. The control group was treated with routine extraction methods and the observation group was treated with new extraction methods. **Results:** There were 3 cases of tooth extraction hemorrhage in the observation group accounting for 4.1%, including alveolar hemorrhage in 1 case, granulation or foreign body hemorrhage in 2 cases; with all cases of haemorrhage within 12 h of extraction. In the control group, there were 18 hemorrhage cases, accounting for 24.3%, including alveolar hemorrhage in 4 cases, bleeding gums in 3 cases, granulation or foreign body hemorrhage in 5 cases and other causes of bleeding in 6 cases; with all cases of haemorrhage within 24 h of extraction. Satisfaction survey results showed that the satisfaction of the observation group was 4, higher than the control group by 98.6%. **Conclusion:** After tooth extraction, the effects of bleeding and treatment were notable, and thus this approach can be further promoted.

**KEYWORDS**
Bleeding
Tooth extraction
Clinical control

## 1. Introduction

Bleeding after extraction is a common symptom in tooth extraction surgery. For the average patient, a small amount of bleeding after tooth extraction has no effect on the health of the body. However, there may be serious consequences for patients with special diseases such as hemophilia, high blood pressure, hepatitis and other diseases, and these may be overlooked during tooth extractions. There are various types of surgical treatments for various diseases depending on the size and type of division ratio ranging from large to medium sized operations. One of the cases of small surgical treatment is tooth extraction. Treated as a small surgery, the investment in medical equipment and technical testing is minimal while the pain and nursing difficulty is also low. However, it is for these reasons that often lead to insufficient attention during preoperative preparation as well as postoperative care, which would then lead to complications. Bleeding after tooth extraction is one of the most outstanding cases. After extraction, bleeding could occur due to complications and if it is not treated effectively fast, it could not only cause intolerable pain in patients but also cause shock and other adverse reactions. Hence, bleeding after tooth extraction has been given more and more attention. In our hospital, we retrospectively analyzed the data of patients undergoing tooth extractions in our hospital from March 2013 to April 2014. The general causes of bleeding after tooth extraction were analyzed and detailed control measures were prepared, achieving some results in this report as follows [1].


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## 2. Materials and methods

### 2.1. Basic data

Clinical data of 352 patients experiencing hemorrhage af-

ter tooth extractions in our hospital retrieved from March 2013 and April 2014 were retrospectively analyzed and the causes of bleeding summarized. A specific control scheme was developed. 197 male patients and 155 female patients, with an age range of 19–73 were included. The average age was 31.8 years. 148 patients from July 2014 to August 2015 in our hospital were selected. Of these 148 cases, there were 42 cases of alveolar vascular hemorrhage, granulation hemorrhage in 57 cases, bleeding gums in 83 cases, and non-mechanical damage such as from anti-clotting drug therapy and diseases (22 cases). Patients included 94 male patients and 54 female patients, aged from 26–68 years old with an average age of 39.4 years old. All patients were randomly divided into two groups, the observation group and the control group with 74 cases in each group. The control group was treated with routine extraction methods and the observation group was treated with new extraction methods.

## 2.2. Method

### *2.2.1. Control group*

The control group was treated with conventional extraction methods and steps were taken to prevent infection. During pre-operation, patients were provided with psychological care to avoid tension, anxiety, panic and so forth. Medical personnel were to follow two schemes of treatment. First, tooth extraction fossa was carefully cleared of granulation tissue residues, to this will only powder is placed in the period, and the pressing hemostasis was at 30 min. Secondly, an extraction process caused by torn periodontal tissue or in patients with a certain degree of alveolar bone fracture were treated with wound horizontal mattress suture, supplemented by cotton ball pressing for 30 min.

### *2.2.2. Observation group*

Data retrieved from 352 patients in our hospital experiencing hemorrhage after tooth extractions from March 2013 to April 2014 were reviewed and analyzed. The results of post-extraction hemorrhage causes were summarized along with specific solutions implemented. All patients were examined and asked, in accordance to the status of the tooth, patients' disease history and their corresponding coping measures. For patients with dental diseases, granulation and foreign bodies around the tooth were resected while preserving the rest of the tooth and a day for the extraction treatment was chosen. For patients with high blood pressure, hepatitis, blood diseases or treated with anticoagulant drugs, measures were taken before the extraction, and after withdrawal of the drug. The tooth extraction was done with the separation fully and thoroughly. When the tooth is extracted, the tooth should be stable and the extraction accurate. Dental forceps needed to be gripped and forced in order for the extraction to be accurate. However, the strength should be gradual and the prying force should not be excessive, so as to avoid broken teeth or the dental forceps from damaging it. If there is a bone fracture, fragments of the alveolar bone must be removed from the periosteum in time. Tissues, stones, etc. also needed to be carefully scraped. After the extraction, pressure should be applied to the alveolar bone to reduce bleeding. For patients with two or more teeth extracted, a small amount of the hemostatic agent was placed in the wound. An oppressive lap was administered after a certain period of time if there was no obvious bleeding [2].

## 2.3. Effect evaluation

After 72 hours, the two groups of patients were observed and bleeding was recorded. 6 days after tooth extraction, the two groups of patients were given satisfaction survey questionnaires. The 10 questions in the questionnaire of the Communist Party of China (CPC) included topics ranging from the extraction process to the patient's personal experience, with each question of 10 points having four choices. Finally, according to the patient's answer to score statistics, patients' satisfaction interval was defined as follows: (1) 80–100 = satisfied; (2) 60–79 score = satisfied; and (3) <60 points = not satisfied.

## 2.4. Statistical processing

Using SPSS 13.0 to analyze the data and the analysis of

**Table 1.** Analysis of two groups of patients with bleeding after tooth extraction.

| Project/Content | n | 1–6 h | 6–12 h | 12–24 h | 24–48 h | 48–72 h | Bleeding rate (cases/%). |
|---|---|---|---|---|---|---|---|
| Control group | 74 | 11 (14.9) | 5 (6.8) | 2 (2.7) | 0 (0.0) | 0 (0.0) | 18 (24.3) |
| Observation group | 74 | 2 (2.7) | 1 (1.4) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 3 (4.1) |
| *p* | - | < 0.05 | < 0.05 | < 0.05 | - | - | < 0.05 |

**Table 2.** Reasons and satisfaction of two groups of patients with bleeding after tooth extraction (cases/%).

| Project/Content | n | Alveolar hemorrhage | Bleeding gums | Granulation or foreign body bleeding | Other reasons | Satisfied | Basic satisfaction | Dissatisfied | Satisfaction degree |
|---|---|---|---|---|---|---|---|---|---|
| Control group | 74 | 4 (5.4%) | 3 (4.1%) | 5 (6.8%) | 6 (8.1%) | 56 (75.7%) | 14 (18.9%) | 4 (5.4%) | 70 (94.6%) |
| Observation group | 74 | 1 (1.4%) | 0 (0.0%) | 2 (2.7%) | 0 (0.0%) | 62 (83.8%) | 11 (14.9%) | 1 (1.4%) | 73 (98.6%) |
| *p* | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |

Note: Compared with the control group, the *p* value was calculated.

variance between groups, the results were significantly different ($p < 0.05$).

## 3. Results

The two groups of patients were analyzed, bleeding reasons and satisfaction survey results were shown in Table 1 and 2.

## 4. Discussion

Bleeding after tooth extraction is common in dentistry. According to the data analyzed, the main causes of bleeding are the use of dental forceps or when the extraction is not caused by poor gum separation. Based on the actual situation of patients, specific measures had to be taken before and after the extraction as prevention and control measures to prevent the occurrence of bleeding [3].

As oral surgery has become more common in recent years, more and more patients were given pre- and post-operative care for bleeding prevention to achieve the integration of quality and efficiency of extraction treatment, not only to maintain the health of the mouth, but also to enhance the appearance of the teeth thus improving quality of life. Treatment for bleeding after tooth extraction was often the focus of attention. Bleeding after tooth extraction is usually divided into primary and secondary bleeding. In the case of secondary bleeding, it is mainly because of the damage by blood clots in the alveolar fossa. Patients would have to avoid repeated suction at the extraction area and consumption of hot food. If symptoms worsen, treatment should be prompt [4–6]. Post-operative follow-up is important for this type of oral surgery but it has always been neglected as tooth extraction is often regarded as a minimal kind of surgery, thus ignoring it would lead to further complications, should it arise.

In the observation group, there were 3 cases of tooth extraction hemorrhage (4.1%) including alveolar hemorrhage in 1 case, granulation or foreign body hemorrhage in 2 cases, and all cases were within 12 h. In the control group, there were 18 cases of hemorrhaging, accounting for 24.3% including alveolar hemorrhage in 4 cases, bleeding gums in 3 cases, granulation or foreign body hemorrhage in 5 cases, and other causes of bleeding in 6 cases, all within 24 h. Satisfaction survey results have shown that the satisfaction of the observation group was 4, higher than the control group by 98.6%. The above data showed that with prevention and treatment programs, its effects on bleeding after tooth extraction is significant and its application can be further promoted.

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