Syrian Arab Republic

Damascus University

Faculty Of Dentistry

Oral And Maxillofacial Surgery Department

Evaluation of the effectiveness of aloe vera in soft tissue healing and socket preservation after extraction

(clinical and radiological study)

By Researcher:

Nour Al Halaby

Supervisor:

Prof. Dr. Mohammed Hassan Jaafo

Aim Of The Study:

Evaluation of the effectiveness of aloe vera extract after tooth extraction through its effect on the following variables:

1. pain.
2. Soft tissue healing.
3. The occurrence of dry socket.
4. Horizontal and vertical resorption of the alveolar bone after extraction.
5. Radial Bone density.

Method And Materials:

Study design:

Randomized Split-Mouth Controlled Study.

Randomization: Coin Flipping

Study Sample:

G-Power was used to calculate the sample size : 20 patients with bilateral upper or lower premolars jaw indicated for extraction(40 sockets). The study sample will be divided randomly (coin flipping)into two groups: group A (Aloe vera Group, n=20), group B (control group, n=20)

The extraction of the premolars on both sides will be done in one appointment by the same surgeon.

Place of Study:

Damascus University, Faculty Of Dentistry

Oral And Maxillofacial surgery Department

Inclusion Criteria:

1. Patients who accepted participation with written consent
2. Adults aged 18-45
3. Patients need bilateral upper or lower premolars extraction

Exclusion criteria:

1. Heavy Smokers
2. Pregnant
3. Uncontrolled diabetes patient
4. Presence of cyst or tumor at the extraction site
5. Patients with advanced periodontitis
6. Patient who are allergic to the plants of the liliaceae family

The surgical procedure:

After taking the medical history and evaluating the patient's general health according to the research conditions, his written consent will be taken on the content and terms of the research, research groups will be divided by coin flipping.

All extractions will be performed by one surgeon to standardize the surgical trauma.

The premolars will extract after making sure that they are indicated. Local anesthesia will be (lidocaine 2% with epinephrine 1/80000).

In group (A), aloe vera powder will be placed with gel foam with X suture to stabilize the material inside. The other group(B) gel foam will be placed with X suture to standardize procedures on both sides.

A sterile gauze will placed, and the patient will ask to keep it for an hour to help the powder set.

Clinical And Radiographic Follow –Up:
Radiographic Follow –Up:
The radiographic evaluation of the vertical and horizontal alveolar resorption and the measurement of bone density will be done through CBCT Image:
- First radiographic follow-up immediately after extraction
- Second radiological follow-up 4 months after extraction

The two images will be compared in the two time periods to obtain the required measurements.

 Clinical Follow- Up:

The pain degree: The patient will ask to record his degree of pain on both extraction sides through analog visual scale(VAS), The patient will be questioned by identifying the face corresponding to his degree of pain on the first, second and third days after extraction.

Dry socket: Patients will aske to return on the third and seventh day after extraction to assess the occurrence of a dry socket, by the presence of its known sign and symptoms: severe throbbing pain and the clinical signs(inflamed gingival margins, empty socket, odor).

Soft tissue healing: soft tissue healing will be assessed at the 7th day after extraction through Gingival Healing Index given be Landry et al.

Data Analysis

Data will be analyzed using SPSS version 25 software

- ❖ The Kolmogorov- Smirnov test will be performed to study the normal distribution of the values of each of the measured parametric variables(radial bone density..) T-test will be used for correlate sample for comparison of time periods in each group.
- ❖ If the distribution of the values is abnormal, then the Mann – Whiteny U test will be used to compare the two groups, and the Wilcoxon test for the algebraic ranks will be used for the double comparison between the time periods in each group
- ❖ For the nominal variables(the degree of pain…) then the Mann – Whiteny U test will be used to compare the two groups, and the Wilcoxon test for the algebraic signs will be used to compare the time periods in each group as well.