Title:

Efficacy evaluation of using autologous tooth-derived graft material in post-extraction dental socket preservation.

Subtitle:

Evaluation alveolar ridge values with autogenous tooth graft and the provocative venture of allogeneic tooth graft from family members! A randomized, controlled, prospective, clinical pilot study

Background:

Safeguarding alveolar ridge structural integrity stands as a paramount principle, essential for ensuring the successful execution of dental implant procedures and the refinement of both aesthetic and physiological implications. This inquiry explores the effectiveness of utilizing autologous dental graft and illuminates a captivating outcome achieved through allogeneic dental grafts sourced from a familial participant within the scope of this study.

Methods:

A study involved 11 patients needing bilateral dental extractions. 10 patients received autologous dental grafting on one side, while the other side was untreated. In the eleventh case, one side got autogenous dental grafting, and the other got an allogeneic graft from the patient's son. Outcomes were monitored for four months.

Results:

Utilization of autogenous dental graft has significantly enhanced bone density values and mitigated osseous absorption rates on the autogenous graft side for 10 patients compared with the other side without treatment. The eleventh patient exhibited a

notably higher improvement on the side where an allogeneic dental graft was utilized in comparison to the autogenous dental graft side.

Conclusions:

The study's findings underscore the importance of employing autologous dental graft to preserve the dimensions of the alveolar ridge. It is noteworthy that the marked improvement in the patient's condition resulting from the use of allogeneic dental graft compared to autologous graft raises numerous inquiries, particularly regarding the potential relationship between the patient and the donor.

Acceptance criteria:

Patients meeting the following criteria were selected:

- Medically fit patients (no previous medical conditions such as heart, diabetes, hypertension, etc.).
- Patients with indications for extracting symmetrical teeth.
- The integrity of tooth sockets after extraction.
- Patients who have met the study requirements, signed informed consent and attended follow-up sessions.

Exclusion Criteria:

Patients meeting one or more of the following criteria were excluded:

- Advanced periapical tissue inflammation at the site of extraction.
- Heavy smokers and alcoholics.
- Medically unfit patients.
- Presence of a peak lesion at the site of extraction.

Research sample

The study was conducted on ten patients (selected by the purposive sample method while the grafting side was randomly selected) who had indications for bilateral tooth extraction. In 10 patients, one side remained without any subsequent intervention (the control group), while the contralateral side was filled with an autogenous dental graft (the experimental group). As for the eleventh patient, the alveolu was filled with autogenous dental graft on one of the two sides, while the opposite side was filled with allogeneic dental graft obtained from the patient's son (the patient's son happened to come with his father to extract a single tooth and agreed to the aforementioned procedure after conducting appropriate medical tests to ensure its health). All patients were non-smokers and non-alcoholics, and they had intact alveolar walls after extraction without any inflammation. The study conditions were approved in writing, and the scheduled follow-up appointments were attended (follow-up was performed for four months). (Table 1) shows the characteristics of the research sample.