Data Article

Data regarding clinical evaluation of collagen membrane in oral mucosal defects due to oral submucous fibrosis and leukoplakia

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Abstract

This data depicts the clinical evaluation of collagen membrane in oral mucosal defects due to oral submucous fibrosis and leukoplakia. This data comprised of 10 patients in the age group of 20–60 (3 male and 2 female patients with grade III and grade IV oral submucous fibrosis and 5 male patients with oral leukoplakia with a size of 3–5 cm in diameter). The parameters such as pain, swelling, allergy, biodegradability of collagen membrane, degree of re-epithelisation, degree of contracture, mouth opening and wound size were assessed after the placement of collagen membrane in oral mucosal defects. There is less data regarding the usage of collagen membrane as a biological dressing material to cover mucosal defects (Rastogi et al., 2009) [1].

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Specifications Table

| Subject area                      | Medicine and Dentistry (Oncology) |
|----------------------------------|-----------------------------------|
| More specific subject area       | Oral Potentially malignant lesions (oral submucous fibrosis and leukoplakia) |

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Table, figure

Clinical and histopathological analysis

Type of data

Clinical data

Data format

Parameters such as pain, swelling, allergy, biodegradability of collagen membrane, degree of re-epithelisation, degree of contracture, mouth opening and wound size after placement of collagen membrane in oral mucosal defects

Experimental factors

Clinical evaluation of collagen membrane in oral mucosal defects due to oral submucous fibrosis and leukoplakia

Experimental features

Anil Neerukonda Institute Of Dental Science, Vishakapatnam, India.

Data source location

Data accessibility

Data are included in the paper

Value of the data

- These data describe the clinical evaluation of collagen membrane in oral mucosal defects due to oral submucous fibrosis and leukoplakia.
- These data depict pictorial information about clinical evaluation of oral potentially malignant lesions (oral submucous fibrosis and leukoplakia).
- These data depict that collagen membrane can be advocated for use in the mouth to cover large areas devoid of mucous membrane.
- These data describe improvement of mouth opening ranged from 32 to 44 mm in cases of oral submucous fibrosis.
- The data with larger sample size with longer follow up is mandatory to authenticate this research and it can be carried out with collaborative effort.

1. Data

2. Experimental design and materials and methods

There is less data regarding the usage of collagen membrane as a biological dressing material to cover mucosal defects [1] This data depicts the clinical evaluation of collagen membrane in oral mucosal defects due to oral submucous fibrosis and leukoplakia. This data comprised of 10 patients in the age group of 20–60 (3 male and 2 female patients with grade III and grade IV oral submucous fibrosis and 5 male patients with oral leukoplakia with a size of 3–5 cms in diameter) from clinical and histopathological analysis. The collagen membrane used for the study is NEÜSKINT™ manufactured using patented technology developed by CSIR (Council of Scientific and Industrial Research), New Delhi had dimensions of 5 × 5 cm and 0.3 mm thickness. The parameters such as pain, swelling, allergy, biodegradability of collagen membrane, degree of re-epithelisation, degree of contracture, mouth opening and wound size were assessed after the placement of collagen membrane in oral mucosal defects.

2.1. Pain after placement of collagen membrane

The collagen membrane was effective in relieving pain. Pain was assessed using a plain horizontal visual analog scale with a score of 0–10. A score of 0 indicated no pain, a score of 2.5 indicated mild pain, a score of 5 indicated moderate pain, a score of 7.5 indicted severe pain and a score of 10 indicated worst possible pain (Table 1).
**Table 1**  
Patient data.

| S. no. | Age | Sex  | Diagnosis  | Pain (mm) | 1st POD | 3rd POD | 1st POD | 3rd POD | 7th POD | 14th POD | 30th POD | 14th POD | 30th POD | Mouth opening (mm) | Wound size (mm) | Degree of contracture | Degree of re-epithelisation |
|--------|-----|------|------------|-----------|---------|---------|---------|---------|---------|----------|----------|----------|----------|------------------|-----------------|------------------|---------------------|
| 1      | 40  | male | OSMF       | 25        | 0       | 0       | 0       | 0       | poor    | fair     | good     | good     | good     | 41     | 45   | 44 | 31 x 25 30 x 24 |
| 2      | 40  | male | OSMF       | 5         | 25      | 5       | 25      | 25      | poor    | fair     | good     | good     | good     | 22     | 45   | 41 | 35 x 31 32 x 30 |
| 3      | 24  | female | OSMF      | 25        | 25      | 25      | 25      | 25      | poor    | fair     | fair     | fair     | fair     | 15     | 40   | 32 | 50 x 25 46 x 22 |
| 4      | 60  | male | OSMF       | 25        | 25      | 0       | 0       | 0       | poor    | fair     | good     | good     | good     | 24     | 44   | 39 | 35 x 25 34 x 23 |
| 5      | 28  | female | OSMF      | 25        | 25      | 25      | 25      | 25      | poor    | fair     | good     | good     | good     | 17     | 41   | 34 | 38 x 26 34 x 24 |
| 6      | 58  | male | Leukoplakia | 5        | 25      | 0       | 0       | 0       | poor    | poor     | poor     | poor     | poor     | 55     | 55   | 55 | 38 x 30 35 x 24 |
| 7      | 55  | male | Leukoplakia | 5        | 25      | 0       | 0       | 0       | poor    | fair     | good     | fair     | fair     | 52     | 52   | 52 | 35 x 31 32 x 28 |
| 8      | 45  | male | Leukoplakia | 25       | 0       | 0       | 0       | 0       | poor    | fair     | good     | fair     | fair     | 41     | 41   | 41 | 37 x 37 36 x 34 |
| 9      | 35  | male | Leukoplakia | 5        | 25      | 25      | 25      | 25      | poor    | fair     | good     | fair     | fair     | 65     | 65   | 65 | 30 x 30 28 x 28 |
| 10     | 43  | male | Leukoplakia | 25       | 0       | 0       | 0       | 0       | poor    | fair     | good     | good     | good     | 42     | 42   | 42 | 38 x 32 35 x 31 |

Abbreviations for the Table 1: OSMF – Oral submucous fibrosis, POD – Postoperative day, Pre-OP – Preoperative, Post-OP – Postoperative.
2.2. Swelling after placement of collagen membrane

The swelling after placement of collagen membrane was assessed using a plain horizontal visual analog scale with a score of 0–10. A score of 0 indicated no swelling, a score of 2.5 indicated mild swelling, a score of 5 indicated moderate swelling, a score of 7.5 indicated severe swelling and a score of 10 indicated worst possible swelling (Table 1).

2.3. Allergy after placement of collagen membrane

Systemic or local allergic reactions to collagen membrane were not seen in the 10 patients studied.
2.4. Biodegradability of collagen membrane

When placed directly on the raw wound the collagen membrane underwent lysis within seven days. After 7 days most of the collagen peeled off and the remnants were removed by cutting it and by irrigating with normal saline. By the end of 7 days collagen membrane was seen to induce granulation tissue and in promoting rapid epithelialization (Figs. 1C and 2D).

2.5. Degree of re-epithelization after placement of collagen membrane

Degree of re-epithelization was graded as poor, fair and good based on clinical evaluation of the operative site (Table 1).

Fig. 2. (A–F)-Clinical evaluation of leukoplakia. A: Preoperative: leukoplakia of left buccal mucosa and left alveolar mucosa, B: Intraoperative: collagen membrane placed over raw wound, C: Intraoperative: collagen membrane sutured to surrounding tissue, D: seventh postoperative day, E: Fourteenth postoperative day, F: thirtieth postoperative day.
2.6. Degree of contracture after placement of collagen membrane

Degree of contracture was graded as poor, fair and good based on clinical evaluation of the operative site (Table 1).

2.7. Mouth opening after placement of collagen membrane

The postoperative mouth opening was found unaltered in cases of oral leukoplakia. In cases of oral submucous fibrosis, improvement of mouth opening ranged from 32 to 44 mm (Tables 1 and 2).

2.8. Wound size

Comparison of wound size initially and at the end of 30 days revealed insignificant wound contracture, \( p = 0.059 \) (Tables 1 and 3).

Acknowledgements

None.

Transparency document. Supplementary material

Supplementary data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2018.03.070.

Reference

[1] S. Rastogi, M. Modi, B. Sathian, The efficacy of collagen membrane as a biodegradable wound dressing material for surgical defects of oral mucosa: a prospective study, J. Oral Maxillofac. Surg. (67) (2009) 1600–1606. http://dx.doi.org/10.1016/j.joms.2008.12.020 (https://www.ncbi.nlm.nih.gov/pubmed/19615570).