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*Reduction of gingival recessions as unplanned additional effect  
of surgical procedures of the oral vestibule*

Conservative and surgical periodontal treatment employing resection methods which aim at elimination of pathological periodontal and osseous pockets implies the risk of the appearance and development of gingival recessions (1, 7, 8). It is the result of healing of tissues and restoring appropriate, for an individual person, so-called biological thickness of soft tissues after the regression of inflammation. Furthermore, secondary shallowing of the vestibule and narrowing of the attached gingiva area is observed, which may have influence on maintaining periodontal health. Abnormal frenulum attachment, shallow vestibule, excessively narrow bound, cornifying gingiva do not properly protect the gingival sulcus against the negative influence of pulling (Pull Syndrome), stuffing pieces of food and mechanical traumas. Therefore, gingivovestibuloplasty and vestibuloplasty are sometimes necessary and they are performed in the so-called corrective phase of treatment. Plastic surgeries on soft tissues are to correct oral vestibule morphology as well as to prevent the progress of periodontal diseases (4).

Clinical evaluation of gingival recessions in patients surgically treated in the Department of Periodontology at the Medical University of Lublin who were subjected to plastic surgeries of the oral vestibule.

#### MATERIAL AND METHODS

The study included 18 patients with gingival recessions, who had surgical procedures performed in order to expand the area of the attached gingiva: deepening of the vestibule with Kazanijan method – 10 cases (Fig. 1, 2, 3); frenuloplasty with simultaneous deepening of the vestibule – 8 cases.

In the areas of the performed procedures there were 29 teeth with class I and II recessions according to Miller. The depth of RD recession was evaluated before the procedure and 6 months after the completion of surgical treatment. Percentage of recession coverage was calculated according to the following formula:

$$\text{Percentage of recession coverage} = \frac{\text{RD pre-treatment} - \text{RD post-treatment}}{\text{RD pre-treatment}} \times 100\%$$

The obtained values were submitted to the statistic analysis with the use of Wilcoxon's test.



Fig. 1. Secondary shallow vestibule



Fig. 2. Surgery with the Kazanjian method



Fig. 3. Condition after the surgery

#### RESULTS

$$\frac{2.7 \text{ mm} - 2.1 \text{ mm}}{2.7 \text{ mm}} = 22\%$$

After the research completion it was stated, that the mean recession depth before treatment was 2.7 mm. In the studies performed 6 months later the mean depth of RD recession was 2.1 mm and this difference was statistically important  $p < 0.01$  (Fig. 4). The additional effect of the performed research was 22% reduction of gingival recessions that occurred in the operated areas because of excessively shallow oral vestibule.

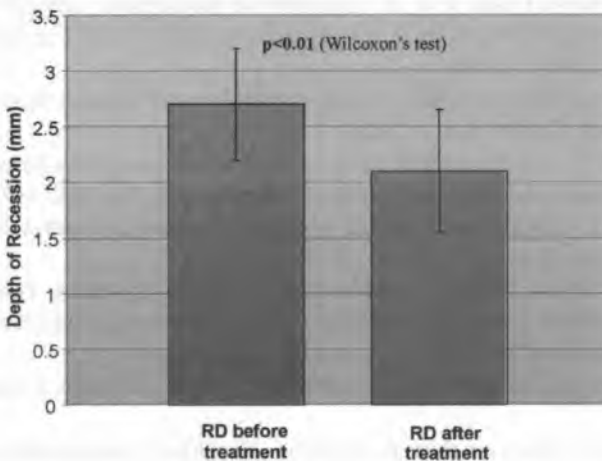


Fig. 4. Average depth of gingival recessions before and after treatment

## DISCUSSION

It was a long time ago that a relation had been observed between the narrow section of gingiva, defective lip and buccal frenulum attachments and related to them pull syndrome as well as changes in the periodontium (2, 4). In the primary definition of periodontal surgery the indications for the procedures were only: defective frenulum attachment, flat vestibule, problems connected with immobile mucous membrane. At present periodontologists deal with other problems, such as: root coverage, aesthetic crown extension, correction of the defective alveolar process, release of impacted teeth for orthodontic purposes, reconstruction of interdental papillae (7). In the eighties Proszak-Kosowska and Gawrzewska observed the reduction of recession progress after the use of free mucosal grafts holding permanently for 2–3 years after the operation. Shallowing of the recession was 0.36 mm (3). As we refer self-study results concerning gingival recessions to authors observations (2, 6, 9) who additionally employed graft of palatal mucous membrane in order to expand the section of the attached gingival, it should be noticed that the mean values of the investigated parameters in our material were a little bit worse. However, procedures performed by us did not aim at the reduction of gingival recessions. The improvement of morphological and functional conditions of the vestibule obtained by extension of the area of the attached gingiva protected the periodontium from the negative effects of pull syndrome, promoted the improvement of oral hygiene and slowed down the development of periodontal disease (4).

## CONCLUSIONS

Procedures of muco-gingival surgery performed in order to improve the morphology of the oral vestibule tissues beside the intended effect led to an additional positive result of 22% coverage of gingival recession that had existed before the treatment in the cases researched by authors.

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### SUMMARY

The aim of the study was clinical evaluation of gingival recessions in patients surgically treated in the Department of Periodontology at the Medical University of Lublin, subjected to plastic surgeries on the oral vestibule, in the process of the complex treatment. The study included 18 patients with gingival recessions who had surgical procedures performed aiming at expanding the area of the attached gingiva including: deepening of the vestibule with the Kazanijan method – 10 cases; plastic surgery of lateral frenulum with simultaneous deepening of the vestibule – 8 cases. The depth of RD recession was evaluated before the surgery and 6 months after the completion of surgical treatment. Percentage of recession shallowing was calculated. The authors observed that an additional effect of the conducted treatment was 22% reduction of gingival recession's depth in teeth with recessions that were in the operated areas because of excessively shallow oral vestibule.

Zmniejszenie recesji dziąsłowych jako nieplanowany dodatkowy efekt zabiegów chirurgicznych na przedsionku jamy ustnej

Celem pracy była ocena kliniczna recesji dziąsłowych u pacjentów leczonych chirurgicznie w Zakładzie Periodontologii AM w Lublinie, poddanych zabiegom plastycznym na przedsionku jamy ustnej w procesie kompleksowego leczenia zapaleń przyzębia. Badaniami objęto 18 osób z recesjami dziąsłowymi, u których wykonano zabiegi chirurgiczne mające na celu poszerzenie strefy dziąsła przyczepionego, w tym: pogłębienie przedsionka metodą Kazanijana – 10 przypadków; plastykę wędzideł bocznych z jednoczesnym pogłębieniem przedsionka – 8 przypadków. Oceniano głębokość recesji RD przed zabiegiem oraz po upływie 6 miesięcy po zakończonym leczeniu chirurgicznym. Obliczono procentową wartość pokrycia (splycenia) recesji. Zaobserwowano, że dodatkowym efektem leczenia było 22% zmniejszenie głębokości recesji dziąsłowych przy zębach z recesjami znajdujących się w obszarach operowanych z powodu zbyt płytkiego przedsionka jamy ustnej.