
Changes in quality of life after orthognathic surgery: a comparison based on the involvement of the occlusion

Ashish Khadka, BDS, Yao Liu, DDS, Jihua Li, DDS, Songsong Zhu, DDS, En Luo, DDS,
Ge Feng, DDS, and Jing Hu, DDS, Chengdu, China

STATE KEY LABORATORY OF ORAL DISEASES AND DEPARTMENT OF ORAL AND MAXILLOFACIAL
SURGERY, WEST CHINA COLLEGE OF STOMATOLOGY, SICHUAN UNIVERSITY

Objectives. The aims of this study were to investigate the impact of dentofacial deformities on quality of life in Chinese patients and to make a comparison between facial deformities that do and do not involve the occlusion.

Study design. Consecutive patients with dentofacial deformities requiring surgical correction were divided into 2 groups. Group A represented those who had undergone presurgical orthodontic treatment, and group B represented patients with square faces or prominent zygoma. All subjects were assessed by the 36-item Short-Form Health Survey (SF-36) and the 22-item Orthognathic Quality of Life Questionnaire (OQLQ-22) during 2 time periods: preoperatively and 6-8 months postoperatively.

Results. The SF-36 revealed that there was significant difference in role physical and bodily pain ($P < .05$) preoperatively between the 2 groups, whereas postoperatively the difference was not significant. Preoperatively, there was significant difference in oral function and facial esthetics components of OQLQ ($P < .001$), whereas postoperatively only the oral function domain showed significant difference.

Conclusions. Orthognathic surgery had a positive impact on patients' quality of life regardless of the type of deformity. OQLQ showed better discerning ability and was able to point out the subtle differences between the 2 groups. (**Oral Surg Oral Med Oral Pathol Oral Radiol Endod** 2011;112:719-725)

Dentofacial deformities are deformities that affect primarily the jaws and the dentition; therefore, they are extremely prominent, are not easily disguised, and affect one's quality of life immensely.^{1,2} Orthognathic surgery aims to correct these deformities via various osteotomies/ostectomies to achieve a desirable end result. Results deemed to be satisfactory from a clinician's aspect may not be so from the patient's aspect, because studies have shown that in patients with facial deformity, there is a close relationship between patient satisfaction and psychosocial functioning.³⁻⁶ In recent years, research on quality of life assessment has been on the rise, and, more importantly, the area of focus has widened with greater emphasis placed on social well-being rather than disease mortality, tumor growth, etc., providing much-neglected subjective views of the treatment outcomes.⁷ With increased relevance of health-related quality of life (HRQoL), it is now recognized that quality of life (QoL) assessment is a key outcome measure in the management of dentofacial deformities.⁸⁻¹¹

Class I/II/III malocclusions are a common feature in every part of the world. However, a square face with wide mandible and/or wide and prominent zygoma is a special trait seen in East Asian populations. Patients with square faces, unlike patients with class I/II/III malocclusion, have purely a problem of esthetics rather than of function. Likewise, surgeries performed on square jaws usually do not involve the occlusion, whereas surgeries for correcting class I/II/III malocclusion require adjustment of occlusion with subsequent postoperative effects. There is a paucity of published studies investigating QoL in Chinese orthognathic patients; furthermore, there are none that investigate the population from the mainland China and none pertaining to patients with square faces. The aim of the present study was to determine changes in QoL in Chinese patients with dentofacial deformity after undergoing orthognathic surgery, using generic health and condition-specific QoL approaches and to see if there were any differences in QoL after surgeries that did or did not involve the occlusion.

MATERIAL AND METHODS

Patient selection

Ethical approval was first obtained from the Ethical Committee of Sichuan University. Informed consent was then obtained from each of the subjects, and the subjects were assured of confidentiality of the question-

Supported by a grant from the Ministry of Health of China.
Received for publication Nov. 11, 2010; returned for revision Dec.
25, 2010; accepted for publication Jan. 3, 2011.
1079-2104/\$ - see front matter
© 2011 Mosby, Inc. All rights reserved.
doi:10.1016/j.tripleo.2011.01.002

naires. Consecutive patients with dentofacial deformities reporting to the Department of Oral and Maxillofacial Surgery, West China College of Stomatology, from July 2008 to January 2010 were recruited for this longitudinal study. Group A patients were those who had undergone presurgical orthodontic treatment and had come for orthognathic surgery. These patients mainly had class II, class III, or asymmetric jaw relation and underwent various procedures, such as sagittal split osteotomy, intraoral vertical ramus osteotomy, Le Fort I osteotomy, and anterior subapical segmental osteotomy. Exclusion criteria for this group were physical disability, acquired or congenital deformities, such as cleft lip and palate, posttrauma facial deformities, surgical correction for high zygoma, square face, or retrogenia, patients requiring osteodistraction, and any previous jaw surgery. Group B consisted of patients with square faces or with prominent zygoma who had come for correction of the same. These patients underwent procedures, such as mandibular outer cortex ostectomy, mandibular angle ostectomy, "V" line ostectomy, and zygomatic "L" shaped osteotomy. Exclusion criteria were physical disability, acquired or congenital deformities, such as cleft lip and palate, posttrauma facial deformities, past history of jaw surgery, and those currently undergoing orthodontic treatment. For both groups, any subject unable to provide informed consent for participation in the study was also excluded.

Instruments and data collection

All subjects were asked to complete questionnaires incorporating a generic health-related questionnaire, the 36-item Short-Form Health Survey (SF-36),¹² and a condition-specific QoL measure, the 22-item Orthognathic Quality of Life Questionnaire (OQLQ-22).¹³ The patients were evaluated during 2 time periods: preoperative period, which referred to the past 30 days before surgery for both groups A and B, and postoperative period, i.e., 6-8 months after surgery, after the completion of postsurgical orthodontics for group A and ~6 months after surgery for group B after the swelling had subsided. The 36 items of the SF-36 questionnaire contribute to 8 health domains: physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotion, and mental health. Scores can range from 0 to 100, where 0 is the worst possible and 100 the best possible health. The standard SF-36 is available as a Chinese version and has been validated for a Chinese population.¹⁴ The OQLQ questionnaire consists of 22 questions, subdivided into 4 domains: facial esthetics, oral function, awareness of dentofacial esthetics, and social aspects of dentofacial deformity. Each question is rated on a 4-point scale ranging from 1 ("it bothers you a little") to 4 ("it

Table I. Demographic characteristics of the patients

	Group A	Group B
n	110	42
Gender		
Male	33	5
Female	77	37
Age, y, mean (range)	22.86 (18-34)	27.21 (20-37)

bothers you a lot"). A total OQLQ score can range from 0 to 88. A lower score indicates better QoL and higher score poorer QoL. However, OQLQ-22 was not available in Chinese and it was adapted into a Chinese version. Each copy of the questionnaire was 4 pages with a total of 58 questions, and the average time for a patient to fill the questionnaire ranged from 8 to 10 minutes.

Data analysis

Scoring was done at 2 time periods, preoperatively and 6-8 months after operation. Mean and standard deviations, as well as median and 25th and 75th percentiles, were calculated, and the changes in QoL scores between the 2 time periods within each group were evaluated by the Wilcoxon signed rank test, a nonparametric test for paired samples. Comparison between the 2 groups both preoperatively and postoperatively was done using Mann-Whitney *U* test, a nonparametric test for 2 independent samples (because the data followed a Poisson distribution). The 22 individual items of OQLQ between the 2 groups both preoperatively and postoperatively also were evaluated by Mann-Whitney *U* test. A *P* value of <.05 was considered to be statistically significant. The Statistical Package for Social Sciences (SPSS version 16.0; SPSS, Chicago, IL) was used to perform the analysis.

RESULTS

Altogether, 158 patients (115 in group A and 43 in group B) participated in the study. Two patients were unable to provide informed consent and were excluded from the study. Both of the patients were men in their midtwenties. During follow-up, 15 patients were unable to personally fill the questionnaire, and therefore a telephone interview was conducted. Six patients (5 from group A and 1 from group B) were eventually lost to follow-up; therefore, in the end there were 110 patients in group A and 42 patients in group B. Out of 110 patients in group A, 33 were male and 77 were female. In group B, 5 were male and 37 were female. This demographic data is presented in Table I. Except for a few domains, there was no significant difference

Download English Version:

<https://daneshyari.com/en/article/6059378>

Download Persian Version:

<https://daneshyari.com/article/6059378>

[Daneshyari.com](https://daneshyari.com)