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Comparison on Psychological Status of Patients and Treatment Variations on Orthognathic Surgery: Academic College Versus Private Practice

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ABSTRACT

Background: The need for the present study was to assess the comparison between treatment variations of orthognathic surgery carried out in academic institutions and in private practice as well as to analyze the psychological impact it has on these patients.

Methodology: 40 patients were included in this descriptive study having 20 patients each from academic institutions and from private clinics. They were provided with questionnaires to assess their psychological inclination towards their chosen treatment setting.

Results: Around 68% of patients getting treated in academic institutions were not in sync with more aggressive surgical treatment options and went for more time-consuming orthodontic treatment to get their abnormalities corrected which was in contrast to the 72% patients who were ready for aggressive treatment protocol so that results can be achieved in a lesser time frame.

Conclusion: Surgery first approach gives patient initial confidence and reduces the time period to achieve comparable results with surgery intermediate approach.

Keywords: Orthognathic surgery, quality of life, psychological impact.

INTRODUCTION

Orthognathic surgery is becoming common treatment alternative in the correction of dentofacial deformities. Person with significant jaw malrelationship with limitation due to lack of growth have alternative treatment in orthodontic mechanics alone or surgical orthodontic approach.[1] Surgical jaw repositioning often allows most ideal correction of etiologic factors whereas orthodontic tooth movement alone is directed towards compensating for the skeletal malrelationship and preoperative orthodontics is to remove any dental compensation and allow for maximal skeletal correction to achieve optimal facial form.[2] The selection of appropriate treatment plan is based not only upon the clinician assessment but the final result with regard to aesthetics, function, and stability.[1] Aesthetic improvement has been reported to be a strong motivating factor for many persons who decide to undergo orthognathic surgery.[3] People who have disfigurement or deformity often

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experience problem in social interaction leading to lowered self-esteem and tendency to become introverted and relusive.[4] Appearance and personality may be related to the degree that facial changes produced by orthognathic surgery which improve not only self-concept values but also scores in areas of psychopathology[5] and improve self-confidence and self-image.[6] A patient's decision to undergo orthognathic surgery is based on multiple needs, motives, social, psychological concerns, cultural values and cost of treatment. Recovery time and perceived benefits can encourage a patient to pursue surgery or discourage him/ her.[7] Orthognathic surgical treatment is used to correct severe jaw discrepancy using a combination of fixed orthodontic appliance and jaw surgery. The main indication for this treatment are dentoskeletal disproportion that are so severe that they cannot be corrected using less complex treatment options such as orthodontic appliance.[8] Its generally accepted in literature that the main benefits of orthognathic treatment are likely to be psychological in nature and majority of patients who seek treatment are mainly concerned about their dentofacial esthetics.[9] The cost of facial cosmetic surgery has also decreased, and patients today have increasing economic power and consider investing in an improved cosmetic appearance as a valuable life-changing investment. Patients are more willing for surgery as the risks associated with general anesthesia are far lower today than what they were two decades ago. This have led to an increasing demand for orthognathic surgery in the current Indian scenario. The conventional approach or the ''surgery intermediate'' approach involves a period of pre-surgical orthodontics followed by surgery and finally a period of postoperative orthodontics. The overall duration of treatment can be expected to range from 18 to 36 months based on the complexity of the dento-facial deformity. During the phase of pre-surgical orthodontics, facial esthetics and occlusion worsen which can be extremely demotivating to the patient. On the other hand, a ''surgery-first'' approach allows early improvement of the facial profile by eliminating the preoperative orthodontic phase and directly re-positioning the affected jaw(s) using conventional osteotomies. It requires the surgeon and the orthodontist to work closely and have an in-depth understanding of both orthognathic principles and limits of orthodontic movements. The surgeon should be experienced enough to perform orthognathic surgery on uncoordinated and mal-aligned dental arches. Greater attention is needed in the postoperative orthodontic phase if occlusal contacts are insufficient. The poor proprioception from such occlusal contacts can cause the patient to position the mandible in an incorrect manner. This might influence the long-term outcomes of the surgery. The phenomenon of regional accelerated orthodontic tooth movement reduces the duration of postoperative orthodontics by allowing rapid tooth movements. This period of increased bone metabolism lasts for 3–4 months postoperatively. Hence, it is advisable to start orthodontic treatment as soon as possible after surgery. The patient needs to be recalled frequently as rapid movement of the teeth necessitates frequent adjustment of the fixed orthodontic appliance and surgical splint.[10] The mental health status of the individual may affect the probability of seeking cosmetic surgery. Furthermore, the presence of psychological problems could complicate the treatment process and affect patient outcome and satisfaction. The information about the psychosocial effect of orthognathic surgery on patients may allow surgeons to appropriately inform patients on their expectations from surgery.

Aim of the study

The need for the present study was to assess the comparison between treatment variations of orthognathic surgery carried out in academic institutions and in private practice as well as to analyze the psychological impact it has on the patients treated in these establishments.

MATERIALS AND METHODS

We carried out a descriptive study where total 40 patients were assessed, of which 24 were female and rest were male patients. 20 patients were included in the study each from academic institutions and from private clinics. They were given questionnaire personally, which was in English language and expected answers in Yes or No format. The questions analyzed their psychological inclination of getting their orthognathic treatment done towards either academic institution or in private clinics. It also assessed their expectations in relation to the treatment and if they faced

difficulties during the process of treatment duration. The data was entered in a Microsoft excel spreadsheet and analyzed with descriptive statistical measures using latest statistical software.

Table 1: Questionnaire included in the study

S.No.	Questions
1	Were you self-aware so as to get the orthognathic correction done? (YES/NO)
2	Are you getting treatment done due to family or peer pressure? (YES/NO)
3	Has cost anything to do with your decision to get the treatment done in the setting which you have chosen? (YES/NO)
4	Are you facing any discomforts in the treatment being carried out in the setting that you have chosen? (YES/NO) if yes then please state them.
5	Has the functionality and quality of life improved since you started the treatment in the chosen treatment setting? (YES/NO)
6	If given a choice to achieve good results-which is more important for you- • Getting treatment done in a lesser time period but with aggressive surgical procedure? (Option1) • Getting treatment done with less aggressive surgical protocol and accept the increase time period to achieve the result? (Option 2)

Table 2: Data recorded in the present study.

Question no.	Patients having treatment done in academic institutions		Patients having treatment done in private clinics	
	YES	NO	YES	NO
1	43%	57%	78%	22%
2	41%	59%	63%	37%
3	84%	16%	12%	88%
4	56%	44%	8%	92%
5	39%	61%	51%	49%
6	68% (Option 2)		72% (Option 1)	

RESULTS

In our study we observed that in case of 20 patients who were getting their treatment done in academic institutions; around 57% of them were not aware about the orthognathic abnormalities. They were suggested by their treating dentists so that their overall appearance as well as functionality improves. 41% of them were however facing pressure from family to get treatment done related to the functional abnormalities. However, for most (84%) of these patients, cost was a major deciding factor, whether to get their treatment done in private clinics with higher expenditure or in academic institutions, where the expenses were reasonable. Around 56% of patients experienced difficulties with increased number of recalls as well as waiting time, as the patient load in public settings are on the higher side. On a downside, only 39% of patients were happy with their treatment and experienced improvement in their quality of life and functionality as well as esthetics. Around 68% of patients were not in sync with more aggressive surgical treatment options and went for more time-consuming orthodontic treatment to get their abnormalities corrected. In case of the 20 patients, who are getting their treatment done in various private clinics; around 78% of them were self-aware that they need to get their orthognathic treatment done. They also had increased family as well as peer pressure to get esthetic or functional correction done (63%). 88% were not much affected with increased treatment costs encountered in the private settings. Very few patients experienced discomforts while getting treated in private clinics; mostly due to relapse. 51% patients observed an improved change in their quality of life as well. Here 72% patients were ready for aggressive treatment protocol so that results can be achieved in a lesser time frame.

DISCUSSION

According to studies, 52%–74% patients consider the aesthetic aspect to be the deciding factor when requesting treatment. Requests for ortho-surgery and requests for aesthetic surgery are based on similar psychological motivations.[11] On an average, the rate of satisfaction is very high at 90%, with only 10% patients claiming dissatisfaction. The reasons given for dissatisfaction appear more linked to psychological elements rather than the failure of the medical procedure.[12] Patients who require orthognathic surgery can go either to academic institutions or to private clinics to get the aesthetic and functional corrections done. In academic

establishments, a proper protocol for treatment is followed as well as there is great volume of patients; which leads to longer waiting as well as treatment duration. The institutions, generally prefer less of surgical corrections and more of orthodontic measures to achieve the desired results. A lot of patience goes in the process for the patients. Whereas in case of patients going to private dental practitioners, they demand proper treatment, less waiting time as well as lesser duration of orthognathic treatment as well. Hence, generally private practitioners have to achieve a desired result in a short span of time; they rely more on surgical corrections as compared to longer duration which happens during orthodontic corrections. Although widely adopted today, conventional orthognathic surgery has many restriction and limitations. Technological advancements and the increasing number of patients choosing this kind of approach led practitioners to seek a newer paradigm to essentially address the drawbacks of conventional approach. Following Dr. Bell's statement that conventional orthognathic surgery is "too complicated, too invasive, too time consuming and too unpredictable", a new approach emerged, which modifies the conventional protocol by carrying out the surgery before orthodontic treatment - "Surgery First Approach". A major reason for reconsidering surgery first approach has been the reduced treatment time, as this technique eliminates or use a minimum pre-surgery orthodontic treatment (1-4 weeks) comparative to conventional approach which needs 12-18 months for orthodontic decompensation and an overall treatment time of 1-1.5 years for the first and 3-4 years for the last.[13] The impact on facial profile register an immediate improvement in Surgery First Approach, while conventional approach leads to worsening of profile, following dental decompensation, even more pronounced in Class III patients. Surgery First Approach eliminates soft and hard tissue hindrances in the begging of the treatment which led to early correction of imbalances due to establishment of proper maxilla-mandibular relationship, thereby allowing accelerated and efficient dental movements. Also, orthodontic movements do not interfere with the compensatory biological response and certain surgical relapses can be controlled during treatment.[14] In our study we observed that main motive for the patients to get their treatment done in the private clinics was to save time as well as achieve the desired results even with more aggressive surgical strategies (Surgery first approach) as compared to patients who reported to the academic institutions, were cost was a prominent factor in choosing the treatment setting (Surgery intermediate approach).

CONCLUSION

Surgery first approach gives patient initial confidence and reduces the time period to achieve comparable results with surgery intermediate approach. It all depends upon patient's inclination, socio-economic status as well as an in-depth interaction between maxillofacial surgeon and an orthodontist.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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