Review Article

Depressive disorders in patients who seek cosmetic surgery: a broad and updated view

Transtornos depressivos em pacientes que buscam cirurgia plástica estética: uma visão ampla e atualizada

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■ **ABSTRACT**

Introduction: Aesthetic surgery can improve the quality of life of patients, but some candidates for the procedure have depressive disorders (DDs) that may develop, in the postoperative period, in a disastrous manner from a psychological point of view and even progress to suicide. The prevalence of DDs in cosmetic surgery patients is 20% on average and reaches 70%. This article aims to review depression and aesthetic surgery as well as to alert and educate plastic surgeons on the growing number of these patients in clinical settings. It also aims to guide surgeons to the appropriate approach and specific behaviors with these patients. **Methods:** A search was performed in MEDLINE/PubMed and Embase, and key words were entered, including "cosmetic surgery," "depression," "mood disorders," "depressive disorder," "depressive symptoms," and "suicide and plastic surgery." **Results:** The success of plastic surgery depends a great deal on the selection of patients for the procedure. Suspect patients, patients with elevated depressive symptoms in questionnaires (such as the BDI), and patients with psychopathology "markers" should be forwarded to a psychiatrist for proper evaluation. **Conclusion:** Due to the high prevalence of DDs in aesthetic plastic surgery patients, every plastic surgery patient should be evaluated properly to identify those with possible DDs in the preoperative period, and those should be forwarded to a psychiatrist, thus avoiding an unfavorable postoperative psychological evolution.

Keywords: Depression; Depressive Disorder; Psychopathology; Aesthetic Surgery.

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■ **RESUMO**

Introdução: A cirurgia estética pode melhorar a qualidade de vida de pacientes, porém alguns que se apresentam para o procedimento são portadores de transtornos depressivos (TD) e podem evoluir, no pós-operatório, de forma desastrosa do ponto de vista psicológico e até mesmo evoluir para o suicídio. A prevalência de TD em pacientes de cirurgia plástica estética é em média de 20%, podendo chegar até 70%. Este artigo tem por objetivo fazer uma revisão sobre depressão e cirurgia estética bem como alertar e conscientizar os cirurgiões plásticos sobre o crescente aumento destes pacientes nos consultórios. Objetiva, ainda, orientar os cirurgiões quanto a abordagem adequada e condutas específicas perante estes. **Métodos:** Realizou-se busca nos bancos de dados MEDLINE/PubMed e Embase e cruzamento de palavras chaves, incluindo "cirurgia plástica estética", "depressão"; "transtornos de humor", "transtorno depressivo", "sintomas depressivos", "suicídio e cirurgia plástica". **Resultados:** O sucesso de uma cirurgia plástica depende em muito da seleção dos pacientes para o procedimento. Pacientes suspeitos, pacientes com sintomas depressivos elevados nos questionários (como o BDI) e pacientes com "marcadores" de psicopatologia deverão ser encaminhados ao psiquiatra para avaliação adequada. **Conclusão:** Pela elevada prevalência de TD em cirurgia plástica estética, todo paciente de cirurgia plástica deverá ser avaliado adequadamente para identificação daqueles com possíveis TD no pré-operatório e encaminhado ao psiquiatra, para assim tentar se evitar evolução psicológica desfavorável pós-operatória.

Descritores: Depressão; Transtorno depressivo; Psicopatologia; Cirurgia estética

INTRODUCTION

Body image is one of the constructors of self-esteem, which is influenced by a variety of historical, temporal, cultural, social, individual, biological, and religious factors that operate at variable intervals[1]. Dissatisfaction with this body image is the most relevant factor and the main motivator of demand for cosmetic surgery procedures[2]. Thus, aesthetic surgery is an essential component of plastic surgery due to its capacity not only to restore function at the physical level but, equally important, to stimulate positive changes in the personality and behavior of an individual as well as several favorable postoperative psychological reactions, including individual/social well-being and self-confidence[2-8].

Nevertheless, it is difficult to quantify the exact benefit that plastic surgery may have for the patient's psyche[3]. Of the patients who seek a consultation for an aesthetic procedure, up to 47.7% fit the criteria for a mental disorder[8]. They seek in surgery the illusion of achieving an ideal body image with the purpose of decreasing their anguish and feelings of constant dissatisfaction[9,10]. Several studies have demonstrated that patients who seek cosmetic surgery present larger psychological alterations when compared to the general population[2-4,11,12], and the most common disorder found was depression[11-13]. Depression is a generic term and can encompass depressive symptoms, depressive episodes, and/or depressive disorders (DDs).

This article aims to review DDs and plastic surgery and to alert and educate plastic surgeons on the growing number in these patients during a medical consultation. It also aims to guide surgeons regarding the appropriate approach and practices for these patients and thus avoid possible unfavorable developments in terms of postoperative function and psychological adaptation, regardless of a technically satisfactory result.

SEARCH STRATEGY: DEPRESSIVE DISORDERS

A search was performed in Medline and Embase (on studies from the last 20 years) using key words (in Portuguese and English) including "cosmetic surgery," "mood disorders," "depression," "depressive disorders," "depressive symptoms," and "suicide and plastic surgery."

RESULTS

History

Mood disorders (which include depression) have been known for approximately 2,500 years and were long called melancholy. In the 19th century, the term "depression" found a place in the medical literature with the use of the translation of "melancholy" from the Latin word "deprimere" meaning to lower or depress[14].

One of the first descriptions of psychological changes related to a surgical procedure was observed in a patient of the psychiatrist Sigmund Freud who underwent an aesthetic surgical procedure in 1918. His obsession, related to a trivial scar left by removing a cyst, became a focus of one of the most famous cases in the annals of psychiatry[14].

Surgical advances obtained in the First World War (1914-1918) and reports of emotional relief observed in scarred individuals served as fuel for the growth of aesthetic surgery[15].

Some surgeons performed the first psychiatric evaluations of patients who sought aesthetic surgery in the '40s, '50s, and '60s and described these patients as having highly psychopathological profiles, becoming cautious with insatiable and male patients[15]. However, these first evaluations did not use adequate methodology, analysis, and standardization, affecting the quality of results and benchmarking of the relationship between DDs and plastic surgery[15].

Epidemiology

Depression is a highly lethal disease that often initiates in individuals between 20 and 40 years old with a ratio of up to 2:1 between women and men[2,16].

Its annual prevalence varies between 3 and 13% in the general population[3-5,8,9,13]. Approximately 12% of women and 8% of men are affected at some point in their lives by depressive episodes[9,16].

In Brazil, approximately 10% of the adult population presents depressive symptoms. In this group, only 28.1% received a diagnosis for the syndrome (DDs), and an even smaller portion (15.6%) used medications prescribed by specialists for their clinical control[16].

According to the World Health Organization (WHO), DDs currently affect more than 350 million people in the world and are already the second cause of Disability Adjusted Life Years in the age range of 15 to 44 years old in both genders. It is estimated that, in 2020, DDs will occupy the first position in developing countries and the second in developed countries and will be the most important cause of disability in both genders, in any age group, followed by coronary diseases. In 2030, DD is calculated to be the most common disease in the world[16].

Depression is already the most common disease in children and adolescents between 10 and 19 years old and is the main cause of disability in both genders. Suicide is one of the three main causes of death in that age range[16].

More than 90% of patients who use psychotropic medication use antidepressants with a predominance of women[3,11,13].

The association between DDs and suicide is consistent and significant, and the average risk of suicide observed among patients with depression is around 30 times higher than in the general population[8,17]. It is possible to establish a diagnosis of depression among 20.8% to 35.8% of completed suicides (WHO), and a 60% increase in the rates of suicide in the last decades was observed, considering global data. It is estimated that 90% of the suicides in older adults are associated with some type of mental disease, and the most frequent is depression[2,13,16,17].

Etiology

Depression is a mental disorder due to internal conflict and a biochemical alteration in neurons responsible for controlling the mood state and can be triggered by heritable genetic, psychological, environmental, and biochemical factors[4].

Associated factors such as urban life; unemployment; physical diseases; prior affective changes; stressful events; loss of loved ones; and use of medication, alcohol, and other drugs may be factors triggering or aggravating DDs[11].

In spite of all efforts, the etiology and pathophysiology of DDs are not yet well defined. Imaging studies related to the analysis of the neurobiological and genetic mechanisms of depression have shown promising results.

Diagnosis

Depression is a difficult affective condition to assess. As a clinical entity, it is classified in the ICD-10 and DSM-V in the mood disorder categories[18]. Its diagnosis should be done clinically by a psychiatrist during an accurate and consistent clinical examination of the patient[1,4,9,13,15].

However, in the day-to-day routine, the plastic surgeon, as well as the entire medical class, should be attentive, trained, and prepared to identify not only the physical complaints but also possible psychological symptoms presented by the patient during the consultation.

There are several signs and symptoms (organic and psychological) of depression (Chart 1)[1,4,5,8,11-13]. The depressed individual, in some cases, may present only with vague and unspecific symptoms, thus hampering diagnosis.

Chart 1. Signs and symptoms (organic and psychological) of depression.

Origin	Signs and symptoms of depression
Psychological	Lack of interest, emptiness, sadness, discouragement, apathy, negligence with personal care, inertia, insecurity, negativism, hopelessness, suicidal ideas, feelings of excessive and inappropriate guilt, depreciated self-esteem, lack of concentration, irritability, persistent crying, feeling of impotence
Organic	Insomnia and/or hypersomnia, change of appetite, loss of sexual desire, lack of energy and fatigue, slowness or psychomotor agitation, and decrease of cognitive functions such as attention, concentration, memory, and learning

One must observe the nature of the symptoms, use of some type of substance, personal and family history of depression, history of psychiatric hospitalization, use of psychotropic drugs (and who prescribed them), psychotherapy, or even apathetic behavior alternating with euphoria[1,4,5,8,9,11-13].

Scales, questionnaires, and inventories contribute substantially in the medical office towards the screening of possible mental diseases including DDs[19].

Beck et al.[19] developed a questionnaire, the Beck Depression Inventory (BDI), to evaluate the intensity of depression symptoms; the questionnaire presented internal consistency and reliability. It is a practical instrument with a high rate of acceptance, credibility, and accuracy and was translated, adapted, and validated for use in Brazil[20].

This is a self-reporting scale containing 21 groups of statements, each item showing symptoms and attitudes at varying intensities from 0 to 3, suggesting increased degrees of depressive symptom severity (Annex 1)[20].

The total score is the result of the sum of all item scores and allows the classification of symptomatic intensity levels of depression with a minimum score of 0 and a maximum of 63 points. The operating manual of the BDI proposes a stratification in which the presence of 1 to 9 positive points corresponds to the symptoms of minimal depression (from 10 to 16: mild symptoms of depression, from 17 to 29: symptoms of moderate depression, and 30 or more: symptoms of severe depression). The limit between symptoms of mild and moderate depression (≥ 17 positive responses) is used as the cut-off point among negative and positive cases as significant risk of depression; however, the manual itself guides that "the cutoff points may vary according to the sample and the purpose of the examiner"[19,20].

Correlation of depressive disorder and plastic surgery

When correlating DDs and plastic surgery in the first studies, some authors found extreme values, ranging from 3 to 90%[1,2,4,5,8,9]. More recent studies have demonstrated less heterogeneity; however, there was a high prevalence of DDs in this population, ranging from 13 to 32% compared to the general population[8,10,12,21-25]. Approximately 20% of the cosmetic surgery patients reported psychiatric treatment, and 18% used antidepressants[2,5,23,24].

PSYCHOPATHOLOGY OF DEPRESSIVE DISORDER AND PLASTIC SURGERY

Currently, DD is considered one of the great challenges of medicine due to its high and growing prevalence, chronicity, and therapeutic implications in the world population[16,19-21,23,24,26]. Until the advent of AIDS, depression held the incontestable title of "Evil of the Century." However, even devoid now of this pointless honor, it continues to increase without hindrance throughout the world, along with several other mental illnesses.

Some authors have demonstrated that improvements related to cosmetic surgery are confined solely to the physical domain, providing little or no change in psychological functions[5,15,25,26]. However, a large number of articles have shown that aesthetic surgery can provide benefits to people not only in the relief of physical symptoms but also in the degree of satisfaction with body image, quality of life, self-esteem, social confidence, sexual function, behavior, and reduction of depressive symptoms[5-9,10-13,15,21-23].

From a philosophical point of view, the result and level of satisfaction (often subjective) regarding surgery are more directly related to cultural factors and temporal patterns of beauty than an appreciation of the beauty of patients' own body results.

A strong correlation is observed in the day-to-day between the preoperative psychological history and postoperative psychological complications. There is a belief that aesthetic surgery is psychologically safe, and it is not. Psychological complications may occur at rates equal to or greater than physical complications in daily practice. Patients who present physical complications are prone to undergo psychological complications simultaneously[22,23].

Patients can progress improperly or even disastrously in the postoperative period, even with an adequate surgical result. Altered psychological states or negative body image can irreparably affect

perceptions of satisfaction with a surgical intervention. Postoperative dissatisfaction is generally caused by emotional disappointment through breakage or violation of their expectations or through a psychopathologic façade unnoticed by the surgeon and (usually) not through technical failure[3,5].

Patients with lower preoperative psychological alterations seem to obtain better postoperative satisfaction with aesthetic surgery. On the other hand, patients identified with signs of depression in the preoperative period may present up to five times more dissatisfaction with their surgical results in the postoperative period[3,4,11,13,15,21,24,25].

Depressive patients may have simple psychosomatic complaints, claims, general dissatisfactions, slight or larger depressive clinical pictures, anger, aggressiveness, and medical processes[27,28] and, in extreme cases, may progress to suicide based on the high correlation of depression and suicide[16,27-30].

Moved by constant dissatisfaction, some patients request repeated procedures, generating problems for the surgeon such as anguish and burnout. More extreme situations can occur against the professional such as exposure, risk of persecution, body threat, physical violence, and legal actions. The literature even reports cases of surgeons who were murdered by patients who presented symptoms consistent with psychosomatics alterations[27,31].

Correlation of implant breast augmentation with depression and suicide

A series of important studies from different countries has been published with the goal of increasing the awareness of the possible mental health problems related to breast implants. Intriguing and alarming data have demonstrated potential risks of increase of suicide in patients submitted to breast augmentation compared to the general population. These findings demonstrated relative risk for suicide in all these studies and may reach up to 4 times higher risk[32-38].

However, a cause and effect relationship could not be identified, and nor could the presence of potential preoperative risk factors or psychopathological profiles that could put these women at greatest risk of suicide. It is suggested that this probably occurs due to the sociodemographic traits, psychopathologic history, and specific lifestyles of these patients rather than the presence of the implant itself. Among them, smoking, excessive alcohol consumption, drug dependencies, civil status/divorce, and parity are the main risk factors associated with depression and, consequently, a greater risk for suicide[2,3,5,21,23,27,30,32].

Candidates for breast augmentation surgery with implants feature striking personal characteristics with a higher number of depressive symptoms[13,23,33,38], psychiatric history[39], psychotherapy[2,11], psychiatric hospitalization[32,39], suicide[32-39], and greater use of psychotropic drugs - in particular, antidepressants which are used up to seven times more, when compared with other plastic surgery patients or women in the general population[11,22,35]. Underlying risk factors and complementary psychopathological characteristics are also observed in this population, including low educational level[24,36], behavior disorders, and higher prevalence of eating disorders[5,11,22,23].

Patient selection

It is known that the key to success with plastic surgery lies in the preoperative selection of patients, and the key is prevention instead of treatment.

Some authors defend that the psychiatric evaluation should always be performed routinely in all aesthetic surgery patients[13].

However, the request for a psychiatric evaluation can, for some individuals, cause distance and malaise in the doctor-patient relationship, creating an embarrassing situation with increased time for preoperative preparation and costs and may seem like an insult or even an aggression[8,23].

Not all candidates for aesthetic surgeries have a high probability of psychiatric problems. On the contrary, the great majority presents a high degree of postoperative satisfaction[11]. The difficulty, then, is to recognize which patients who seek these surgeries have psychological stability, have an established psychiatric disorder (controlled or not), or are even close to being triggered and if these individuals are more prone to experience an exacerbation of psychiatric symptoms in the postoperative period. Recognition and awareness of these profiles (preoperative) constitute the first line of defense of the surgeon in the prevention of postoperative psychological complications[11].

Plastic surgeons must be alert to the possible patients who present for the different surgical procedures by means of a well-clarified consultation about their symptoms and their (real) motivations and clinical history, including mental health and some investigative method (questionnaire) in all patients.

The BDI as a self-evaluation measure of depressive symptoms is a useful instrument for the non-specialist, taking an average time of 5 minutes to be answered. Although without diagnostic accuracy (reserved for the psychiatrist), its use may assist in screening and identifying possible patients with DDs

and the appropriate forwarding for mental health evaluation by a qualified professional[4,13,19,20].

Indicators of patients who have a chance of poor psychosocial development (called "markers" of psychopathology and evaluators of possible negative postoperative evolution) are high degree of demands and expectations about the procedure, constant dissatisfaction or dissatisfaction with their prior aesthetic surgery (with good result), (suspected) candidacy for surgeries with use of breast implants, minimal deformities, failure to understand postoperative evolution and limitations of the technique (primarily adolescents), vague motivations of third parties or based on relationship issues, extreme low self-esteem, history of depression, psychiatric hospitalization, use of antidepressants, higher score on the questionnaire (≥ 17), personality disorder, lack of companion, and low schooling and income[2-15,21,26-39].

It is suggested that all patients with the above characteristics be forwarded to the psychiatrist (preferably with the surgeon's confidence) for a more detailed and enlightening assessment, and a psychiatric opinion should be added to the patient's record, releasing him or her for the surgical act from the point of view of mental health, along with the signed Free and Informed Consent Form. Patients dissatisfied with their postoperative results can use their psychiatric history as part of their judicial action against the surgeon, claiming that their psychiatric framework prevented them from understanding the surgery, limitations, complications, and potential results[2,5,11,23,31].

The presence of a history of psychiatric hospitalization represents a strong and important predictive factor of postoperative complications and suicide when compared with the general population[30,39].

The impact of surgical procedures in the areas of psychological function remains poorly known, and the relationship between the treatment of DDs and postoperative evolution is unknown[5,21]. Thus, as long as there are sufficient data for the triage of these patients with well-defined risk factors for psychopathology and suicide, it is prudent to assess each case and forward for psychiatric evaluation patients identified as high risk *before* the surgical procedure for a more consistent and rigorous evaluation. The psychiatrist shall decide if the patient can undergo the procedure or not and at what moment or if they need specific treatment (psychotherapy and/or drug therapy). The success of the surgery in this population depends on a successful treatment of depression.

For patients who develop DDs in the postoperative period, it is imperative that they be referred immediately to a psychiatrist to limit or control this adverse experience and, thus, promote their well-being.

Contraindicating or postponing a cosmetic surgery in a patient with a possible DD does not mean insecurity or lack of skills or lack of respect for the patient. It means caution, concern, and well-being for the patient and especially wisdom and professional maturity.

CONCLUSION

Cosmetic surgery patients should be evaluated properly for the identification of those with possible DDs preoperatively, thus avoiding an unfavorable postoperative evolution.

COLLABORATIONS

PRP Writing of the manuscript and critical review of its contents.

RFJ Final approval of the study.

MP Conception and design of the study.

CGLN Analysis and interpretation of the data.

FCFA Statistical analysis.

VEBV Critical review of contents.

FSF Bibliographical survey.

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Annex 1. Beck Depression Inventory

BDI Beck Depression Inventory (Beck et al., 1961) revised version (Beck et al., 1979 and 1996)

Name: _____ Civil Status: _____ Age: _____ Sex: _____

Occupation: _____ Schooling: _____

This questionnaire consists of 21 groups of statements. After carefully reading each group, make a circle around the number (0, 1, 2, or 3) next to the statement, in each group, that best describes the way you have felt in the last week, including today. If several statements in a group appear to apply equally well, make a circle around each one. Take care to read all of the statements in each group before making a choice.

1	(0) I do not feel sad. (1) I feel sad. (2) I am always sad and cannot get out of it. (3) I am so sad and unhappy that I cannot stand it.	**11**	(0) I am no more irritated by things than I ever was. (1) I am slightly more irritated now than usual. (2) I am quite annoyed or irritated a good deal of the time. (3) I feel irritated all the time.
2	(0) I am not especially discouraged about the future. (1) I feel discouraged about the future. (2) I think I have nothing to expect. (3) I feel my future is hopeless and will only get worse.	**12**	(0) I have not lost interest in other people. (1) I am less interested in other people than I used to be. (2) I have lost most of my interest in other people. (3) I have lost all of my interest in other people.
3	(0) I do not feel like a failure. (1) I feel I have failed more than the average person. (2) As I look back on my life, all I can see is a lot of failures. (3) I feel I am a complete failure as a person.	**13**	(0) I make decisions about as well as I ever could. (1) I put off making decisions more than I used to. (2) I have greater difficulty in making decisions than I used to. (3) I can't make decisions at all anymore.
4	(0) I get as much satisfaction out of things as I used to. (1) I don't enjoy things the way I used to. (2) I don't get real satisfaction out of anything anymore. (3) I am dissatisfied or bored with everything.	**14**	(0) I don't feel that I look any worse than I used to. (1) I am worried that I am looking old or unattractive. (2) I feel there are permanent changes in my appearance that make me look unattractive. (3) I believe that I look ugly.
5	(0) I don't feel particularly guilty. (1) I feel guilty a good part of the time. (2) I feel quite guilty most of the time. (3) I feel guilty all of the time.	**15**	(0) I can work about as well as before. (1) It takes extra effort to get started at doing something. (2) I have to push myself very hard to do anything. (3) I can't do any work at all.
6	(0) I don't feel I am being punished. (1) I feel I may be punished. (2) I expect to be punished. (3) I feel I am being punished.	**16**	(0) I can sleep as well as usual. (1) I don't sleep as well as I used to. (2) I wake up 1–2 hours earlier than usual and find it hard to get back to sleep. (3) I wake up several hours earlier than I used to and cannot get back to sleep.
7	(0) I don't feel disappointed in myself. (1) I am disappointed in myself. (2) I am disgusted with myself. (3) I hate myself.	**17**	(0) I don't get tired more than usual. (1) I get tired more easily than I used to. (2) I get tired from doing almost anything. (3) I am too tired to do anything.
8	(0) I don't feel I am any worse than anybody else. (1) I am critical of myself for my weaknesses or mistakes. (2) I blame myself all the time for my faults. (3) I blame myself for everything bad that happens.	**18**	(0) My appetite is no worse than usual. (1) My appetite is not as good as it used to be. (2) My appetite is much worse now. (3) I have no appetite at all anymore.
9	(0) I don't have any thoughts of killing myself. (1) I have thoughts of killing myself but I would not carry them out. (2) I would like to kill myself. (3) I would kill myself if I had the chance.	**19**	(0) I haven't lost much weight, if any, lately. (1) I have lost more than 2 ½ kilos. (2) I have lost more than 5 kilos. (3) I have lost more than 7 kilos. I am trying to lose weight on purpose, eating less: Yes ____ No ____
10	(0) I don't cry any more than usual. (1) I cry more now than I used to. (2) I cry all the time now. (3) I used to be able to cry, but now I can't cry even though I want to.	**20**	(0) I am no more worried about my health than usual. (1) I am worried about physical problems like aches, pains, upset stomach, or constipation. (2) I am very worried about physical problems, and it's hard to think of much else. (3) I am so worried about my physical problems that I cannot think of anything else.
		21	(0) I have not noticed any recent change in my interest in sex. (1) I am less interested in sex than I used to be. (2) I have almost no interest in sex. (3) I have lost interest in sex completely.

_____ Subtotal _____ Total Score.