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REVIEW ARTICLE

The body dysmorphic disorder patient: to perform rhinoplasty or not?

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Abstract By virtue of being a (primarily) aesthetic rather than a functional procedure, rhinoplasty is unique among rhinological operations. As such, it raises moral, philosophical and social issues that no other procedure does. The preoperative assessment of a rhinoplasty patient includes a number of considerations that are unique in this type of surgery; during the outpatient consultation, the patient's motivation for surgery, stability and overall psychological evaluation, with a special emphasis on body dysmorphic disorder, have to be taken into consideration. Body dysmorphic disorder is a relatively common obsessive–compulsive spectrum disorder defined by a constant and impairing preoccupation with imagined or slight defects in appearance. Body dysmorphic disorder is associated with poor quality of life, extremely high rates of suicide and—following cosmetic surgery—high rates of dissatisfaction, occasionally manifesting as aggressiveness. A combination of psychological and medical management is the treatment of choice and this review aims to address the frequently controversial rhinoplasty indications for these patients.

Keywords Body dysmorphic disorder · Rhinoplasty · Cosmetic surgery · Rhinoplasty indications

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Rhinoplasty: social and ethical issues

Rhinoplasty is probably the most controversial of all rhinological operations, as it is frequently primarily aesthetic rather than functional. The indications for rhinoplasty therefore raise moral, philosophical and social issues which are rarely of paramount importance in other procedures. The number of cosmetic operations has dramatically increased in the 21st century; a 162 % rise since 1997 in the USA, with over 1.3 million procedures performed in 2009 [1] and a 300 % rise since 2002 in the UK, with 34,000 aesthetic plastic surgery procedures performed in 2008 [2], while 17 million cosmetic procedures were performed worldwide in 2009 [3]. This data reflects the wider availability of surgical interventions, as well as a global culture increasingly focused on appearance. Modern lifestyle, constantly influenced by media exposure of a "universal" beauty, gives aesthetic superiority a pivotal role in society. Beauty has always been of essential importance but nowadays the awareness of various methods to "improve" cosmesis has driven the public towards these methods, shifting the balance of medical priority in favour of various, sometimes unnecessary, interventions. Whether a patient's decision to have aesthetic plastic surgery is a fully autonomous and conscious one is therefore debatable. In that respect, as the face is the centre of attention in human encounters, rhinoplasty has obtained a special role in ENT surgery.

Patient selection and overall psychological assessment

Despite the wider context of rhinoplasty, the aforementioned social and moral issues are often distilled in a single decision for the surgeon—to operate or not—that one has

to make in a relatively limited time frame: the rhinoplasty consultation(s). During this consultation, the surgeon must objectively assess the (real or perceived) nasal defect, comprehend the patient's point of view regarding what is "abnormal" and how it can be improved, decide and explain to him/her what can realistically be accomplished through surgery but most importantly, investigate the patients motivations, inner stability and overall psychological profile. In order for the patient to provide a real informed consent, the surgeon has to stress potential complications, as well as the stress of an irreversible change in one's appearance (including that brought by a successful result).

Is cosmetic surgery really needed?

A study of 1,880 women between 18 and 35 years of age showed that an interest in cosmetic surgery was positively related to body image orientation, having children, been teased for appearance, knowing someone who has had cosmetic surgery and being recommended cosmetic surgery, whereas agreeability, body image evaluation, education and quality of relationship with parents were negatively related to an interest in cosmetic surgery [4]. Although studies [5] have shown an improved quality of life and improvement on many psychosocial well-being indicators after rhinoplasty, there is a higher risk of suicide in patients who undergo cosmetic surgery and a vastly increased rate of psychiatric disorders. This is not to say that all cosmetic surgery patients have psychological problems, it does mean though that a disproportionally large number of such patients tend to undergo cosmetic surgery.

Body dysmorphic disorder

It is therefore vital to screen potential rhinoplasty candidates. What is emerging as a major issue in many (if not most) problematic patients is body dysmorphic disorder (BDD) or dysmorphophobia. BDD is a relatively common obsessive–compulsive spectrum disorder defined by a constant, impairing preoccupation with imagined or slight defects in appearance [6]. BDD is associated with poor quality of life, extremely high rates of suicide and, following cosmetic surgery, high rates of dissatisfaction, occasionally manifesting as aggressiveness. An algorithm has been suggested by Jakubietz for the screening of plastic surgery candidates for BDD [7]; according to this algorithm, patients are divided into three groups: (a) those with correctable deformity and reasonable expectations who can be treated by plastic surgery, (b) those with no deformity and unreasonable behaviour, who would be inappropriate candidates for surgery and should instead be referred for psychiatric evaluation and finally, (c) those with minimal deformity and inadequate behaviour, who should be considered for referral and rescheduled for a second appointment and re-evaluation.

Diagnosis of BDD is established after psychiatric consultation using the 34-item Body Dysmorphic Disorder Examination or Body Dysmorphic Diagnosis Questionnaire (BDDQ) [8]. The BDDQ has been shown to have a sensitivity of 100 % and a specificity of 89–93 % for the diagnosis of BDD in clinical samples [9].

1. Are you very worried about your appearance in any way?
2. Does this concern preoccupy you? That is, do you think about it a lot and wish you could worry about it less? How much time do you spend thinking about it? (more than 1 h per day is suggestive and more than 3 h is highly specific for BDD).
3. What effect has this preoccupation had on your life? Has it:
   - Significantly interfered with your social life, school work, job, other activities, or other aspects of your life?
   - Caused you a lot of distress?
   - Affected your family or friends?

For the busy clinician, Dysmorphic Concern Questionnaire (DCQ), a seven-item screening questionnaire can be used for the initial assessment of these patients. DCQ has good psychometric properties including internal consistency, unidimensional factor structure, strong correlations with distress and work and social impairment [10], while a cut-off value of 9 has been shown to have excellent discriminative validity, correctly classifying 92 % of patients and controls [11]. Using DCQ in the outpatient clinic can be an easy and convenient way of screening patients for BDD. The characteristics of BDD are shown in Table 1 [12–17].

Although 80 % of plastic surgeons in the USA report that they would not operate a patient with BDD, 84 % also state that they had unwillingly operated at least one [18]. In this survey incorporating 265 surgeons, this 84 % reflects cases where surgeons operated on a patient whom they believed was appropriate for surgery, only to realize after operation that the patient may have BDD. Of surgeons who had this experience, 82 % believed that the patient had a poor operative outcome with regard to the BDD symptoms. In another series [19], nonpsychiatric treatment was sought by 71 % and received by 64 % of BDD patients, with dermatological treatment being most frequently sought and received (most often, topical acne agents), followed by

Table 1 Characteristics of BDD

Prevalence	Community 0.7–1.1 % ([12], pp 101–120)
	Cosmetic surgery 6–15 %
	Rhinoplasty 20.7 %
Mean age of onset	16.2 years (clinical)
	13.1 years (subclinical)
Gender distribution	1.5:1–1:1 female/male
Comorbidity	Obsessive compulsive disorder 6–30 %
	Depression (lifetime) 80 %
	Social phobia (lifetime) 39.3 %
	Suicidal ideation 78 %
	45-fold increased risk of suicide (twice as much as for major depression) [13]
Areas of concern [14]	Skin: 80 %
	Hair: 57 %
	Nose: 39 %
	Stomach: 32 %
	Teeth: 29 %
Use of cosmetic interventions	23–40 %
Success of cosmetic surgery	0.7–1.5 %
Rates of dissatisfaction with cosmetic surgery	48–76 % [15, 16]
Other risks	High rates of aggressiveness towards treating surgeon [15, 17]

surgery (most often, rhinoplasty). In a UK rhinoplasty practice, the use of a screening questionnaire for BDD identified a 20.7 % prevalence rate [20]. Cosmetic surgery is unlikely to be helpful in such patients. In a study of 25 patients undergoing 46 procedures in the UK, rhinoplasty was associated with marked dissatisfaction and an increase in the degree of preoccupation and handicap, with the worst outcome in those with repeated operations [16]. In a series [17] of 58 BDD patients seeking cosmetic surgery, the large majority (82.6 %) reported that symptoms of BDD were the same or worse after cosmetic surgery. Although 31 % of BDD patients noticed an appearance improvement following the procedure, only 1 % reported a decrease in their preoccupation with the defect. What is potentially alarming is that these patients, who may belong in the delusional spectrum of this obsessive compulsive disorder, may become threatening; 40 % of plastic surgeons report that they have been threatened by a patient with BDD [18]. In a series of 200 BDD patients [21], receivers of surgical or minimally invasive treatments reported less severe current BDD symptoms and delusionality than persons who did not receive such treatments. However, overall BDD severity improved with only 2.3 % of treatments. That study also showed that cost and physician refusal were the most common reasons for which requested treatment was not received.

Although BDD patients may have trouble accepting it, often choosing instead of self-refer to another surgeon, their management should be psychiatric, not surgical. A recent Cochrane review [22] showed that cognitive behavioural treatment and selective serotonin reuptake inhibitors (SSRIs, fluoxetine/fluvoxamine) are effective and should be the treatment of choice. This combination has been found to be effective in approximately two-thirds of patients [23]. If SSRIs are ineffective, then tricyclic antidepressant agents (TCAs, clomipramine) could be employed. It is increasingly accepted that failing to recognize and operating on BDD, can be a reason for litigation for the surgeon. A recent review [23] on the psychological aspects of rhinoplasty stressed the difficulty that the surgeon faces due to the lack of reliable screening instruments for the initial consultation. Individuals with BDD often refuse psychiatric referral because of poor insight into their underlying illness, but it seems that combined medical and psychological treatment is becoming the mainstay of BDD management [24].

Interestingly, a recent study [20] showed that psychiatric BDD patients seeking rhinoplasty are different from "normal" (or mild BDD) rhinoplasty patients in a variety of ways; they are significantly younger, more depressed, more anxious, more preoccupied with their nose and have more compulsive behaviours, for example, mirror checking, feeling their nose with their fingers and even self-mutilation or do-it-yourself (DIY) surgery. It appears also that they are significantly handicapped in their occupation, social life, and in intimate relationships. BDD patients are especially more likely to have been discouraged from surgery by friends or relatives; more likely to believe that there will be dramatic changes in their life after surgery and have dissatisfaction from other areas of their body. These characteristics are not new; before the description of BDD, a number of surgeons, based on experience, had used similar terms to describe poor rhinoplasty candidates. The acronym single, immature, male, over-expectant or obsessive, narcissistic (SIMON) was coined for the male high-risk patient who was more likely to be risky, whereas secure, young, listens, verbal, intelligent, attractive (SYLVIA) applied to a good candidate [25].

Conclusion

BDD is a severe and relatively common psychiatric disorder that should be addressed in the assessment of rhinoplasty candidates. Patient selection should therefore not focus on assessment of such cases from a purely rhinological standpoint, but rather take psychological aspects

into consideration. Collaboration with psychologists or use of the DCQ is therefore highly recommended. Since the outcome of cosmetic surgery—and especially in cases of rhinoplasty—is poor in these patients, psychological and medical treatment are of paramount importance.

Conflict of interest The authors declare that they have no conflict of interest.

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