INNE PRACE/OTHER ARTICLES

PRACE ORYGINALNE ORIGINAL PAPERS

*Maciej Kulicki, Elżbieta Radzikowska, Zofia Bochen, Józef Jethon

Breast reduction surgery of hypertrophic and sagging breasts in the material from the Plastic Surgery Clinic of the Postgraduate Education Centre in Warsaw

Operacje redukcyjne przerosłych i opadniętych piersi w materiale Kliniki Chirurgii Plastycznej CMKP w Warszawie

Plastic Surgery Clinic of the Postgraduate Education Centre, Warszawa
Head of Clinic: prof. Józef Jethon, MD, PhD

Summary

Introduction. Significant breast hypertrophy and ptosis is a medical indication for surgical treatment. Patients seek help because of vertebral diseases, painful bra grooving and inframammary rashes.

Aim. The aim of the study was to evaluate the indications for reduction mammaplasty, treatment results and assessment of macromastia-related quality-of-life.

Material and methods. A total of 40 patients age 27-72 years were included in the study. A special questionnaire for the assessment of health related quality-of-life before and after surgical treatment of macromastia was developed and sent to the patients by post. Of the 40 patients 24 answered the survey.

Results. The majority of patients had substantial health burdens, e.g. back pain, shoulder pain or headache. Reduction mammaplasty provided significant relief of back pain – 96% of patients declared complete elimination of symptom. Severe shoulder pain was significantly alleviated, but the decrease of moderate and mild shoulder pain was less visible. Furthermore the results revealed an increase in physical activity, self confidence and weight loss causing BMI decrease. The majority of patients (~90%) were satisfied with surgical results, although 37.5% of them expected a better aesthetic effect. All patients considered their agreement to undergo surgery a good decision.

Conclusions. Individualized qualification for reduction mammaplasty provide an increase in patients' physical and social activity, relief of macromastia-related symptoms and improvements in self confidence.

Breast hypertrophy is a disease that influences the lives of women of various ages considered in the context of the physical and mental health burden. The observed decrease of BMI can suggest a potentially positive impact on reducing the risk of diseases of affluence morbidity.

Key words: breast hypertrophy, reduction mammaplasty, macromastia, mastodynia

Streszczenie

Wstęp. Przerost i opadnięcie piersi znacznego stopnia jest leczone chirurgicznie ze wskazań medycznych. Powodem zgłaszania się pacjentek do leczenia były schorzenia kręgosłupa, dolegliwości spowodowane uciskiem ramiączek biustonosza oraz odparzenia w fałdach podpiersiowych.

Cel. Celem pracy było zebranie informacji o wskazaniach do redukcji piersi, wynikach leczenia oraz ocena wpływu przerostu piersi na codzienne funkcjonowanie i jakość życia pacjentek.

Materiały i metody. Oceniono grupę 40 pacjentek w wieku od 27-72 lat. Do zebrania danych skonstruowano ankietę porównującą dolegliwości fizyczne oraz aktywność w różnych aspektach życia sprzed i po operacji. Ankietę wypełniło 24 z 40 leczonych pacjentek.

Wyniki. Analiza wyników ankiety wykazała, że wiele pacjentek miało istotne dolegliwości fizyczne jak bóle kręgosłupa, ramion czy głowy. Wpływ leczenia chirurgicznego okazał się znaczący w przypadku bólów kręgosłupa – 96% pacjentek zadeklarowało ustąpienie dolegliwości. Bóle ramion zmniejszyły się wyraźnie u pacjentek, które poprzednio deklarowały duże ich nasilenie, natomiast stosunkowo mniej wyraźnie u pacjentek odczuwających je dopiero pod koniec dnia. Część

ankiety dotycząca aspektów psychospołecznych wykazała znaczną aktywizację badanych, poprawę ich samooceny, obniżenie masy ciała (BMI). Większość pacjentek (~90%) jest zadowolona z zabiegu, choć 37,5% spodziewało się lepszego wyniku estetycznego. Wszystkie powtórnie podjęłyby decyzję o poddaniu się operacji.

Wnioski. Redukcja piersi przy zindywidualizowanych kryteriach kwalifikacji przyczynia się do aktywizacji fizycznej i społecznej pacjentek, poprzez zmniejszenie dolegliwości oraz poprawę samooceny. Przerost piersi jest schorzeniem o znaczącym wpływie na funkcjonowanie kobiet w różnym wieku, zarówno w ujęciu zdrowia fizycznego, jak i psychicznego. Obserwowane obniżenie BMI może sugerować potencjalnie pozytywny wpływ na zmniejszenie ryzyka wystąpienia chorób cywilizacyjnych.

Słowa kluczowe: przerost piersi, redukcja piersi, makromastia, gigantomastia, mastodynia

INTRODUCTION

Breast reduction surgery is a procedure that allows an achievement of optimal and sustainable results in patients with breast hypertrophy provided that the conditions of appropriate qualification and choosing the surgical technique are met (1-3). In recent years, the scope of indications for surgical treatment of hypertrophic breasts has significantly expanded. Currently, the indications include: spinal disorders associated with the increased load and causing back pain, painful indentations around the clavicules and skin rashes located in the folds under the breasts. Some authors postulate to extend the scope of indications for chronic headaches and occipital neuralgia (4, 5). As patients who require reduction of a small amount of tissue benefit from the surgery, the parameter of weight, which until recently had been considered the main selection criterion, is no longer so important (1). In addition to regression or decrease of the basic problems, which were the immediate causes of the surgery, many patients declare an improvement in self-esteem, self-confidence and increased satisfaction with the intimate life. This has an overall positive impact on the quality of life (6-8). According to the Finnish analysis dealing with the relation between the cost of treatment and social benefits, the outcomes for breast reduction were comparable with other procedures, such as hip replacement (11).

AIM

The aim of the study was to gather information from patients who opted for breast reduction surgery in the Department of Plastic Surgery the Postgraduate Education Centre in Warsaw, draw conclusions to assess outcomes and assess the impact of breast hyperplasia on the daily functioning and quality of life. These data clarify the discomfort that patients reported prior to surgery, determine the reduction or elimination of symptoms, as well as changes in everyday life after breast reduction. Besides the somatic symptoms the analysis includes psychosocial problems of patients who, despite an overall health are often kept on the margins of society because of their hypertrophic and sagging breast. After breast reduction surgery many patients, increased physical activity and has established self-esteem. The conclusions of the work indicate the need for access to breast reduction procedures not only as aesthetic, but also as a treatment on medical, societal benefit.

MATERIAL AND METHOD

The collected data involved about 40 patients operated in the years 2004-2011 at the Plastic Surgery Clinic of the Postgraduate Education Centre in Warsaw. The following parameters were compared: the patient's age breast hyperplasia, the main cause of surgery, specialty of the doctor who referred to the Plastic Surgery Clinic and a subjective assessment of the outcome. The mean age of patients was 42.7 years (range 27-72 years).

The questionnaire was distributed in this group of patients. It consisted of two parts: 1 – contained questions about ailments and difficulties in the activity before surgery, part 2 – contained similar questions to be asked in the same patients but concerned functioning after breast reduction. The questions related to the assessment of physical ailments and psychosocial aspects. The evaluated physical complaints included the presence and evolution of back pain, pain of the shoulder, headaches as well as the occurrence of skin rash in the folds under the breasts. The assessment of psychosocial aspects compared the physical and sexual activity, self-esteem and difficulties in finding proper clothes before and after the surgery. Additionally, patients were asked about their satisfac-

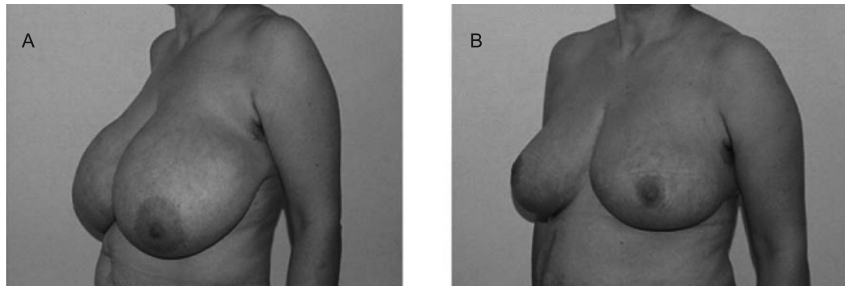

Fig. 1. A patient with mastodynia before (A) and after (B) breast reduction using the McKissock's method.

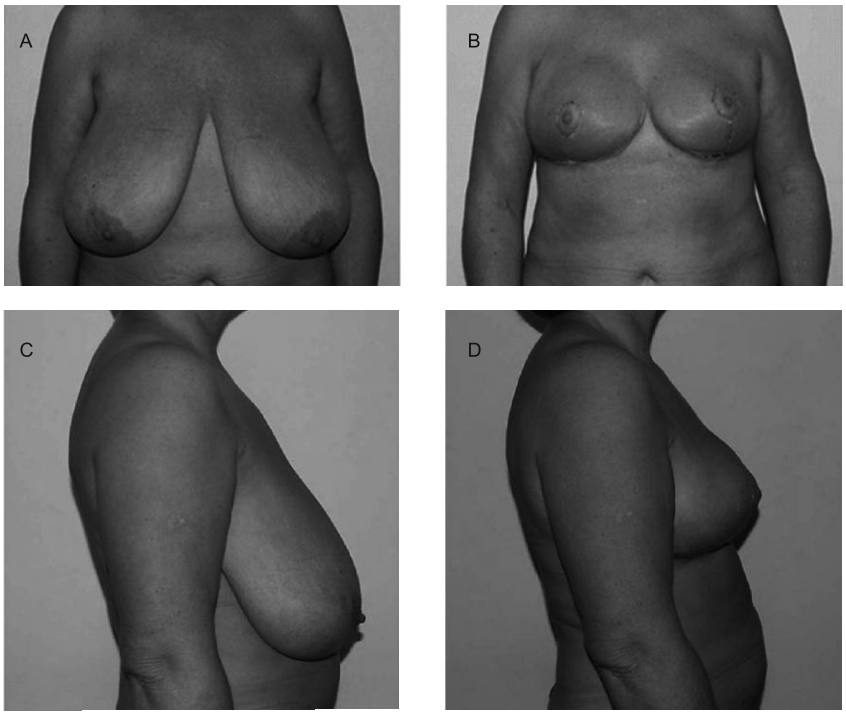

Fig. 2. A patient with breast hypertrophy before (A, C) and after (B, D) breast reduction on the lower pedicle.

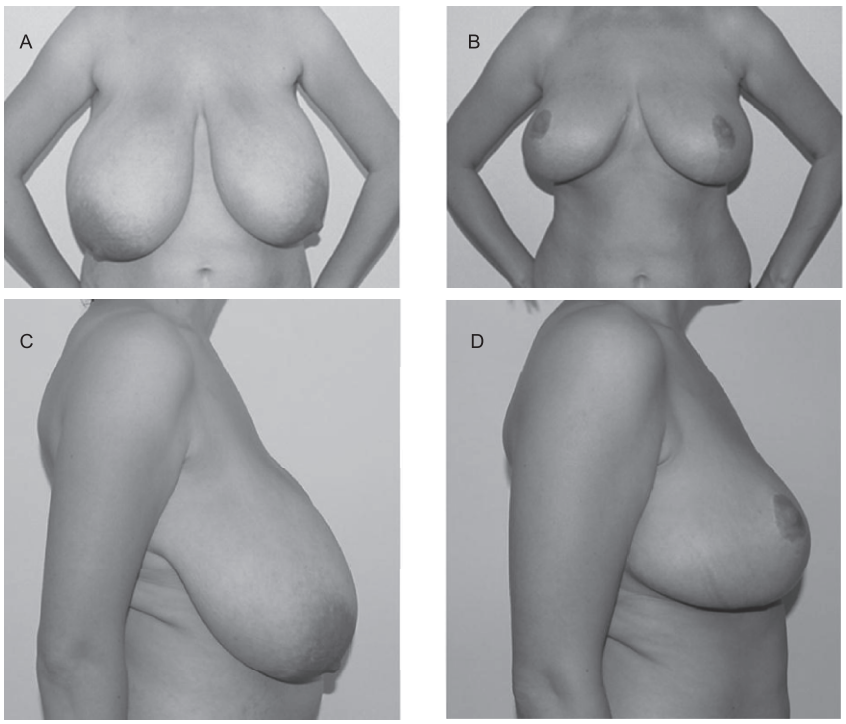

Fig. 3. A patient before (A and C) and after (B and D) breast reduction performed using the Thoreck's method.

tion with the results of operation and whether if they could turn the time back, would they decide for breast reduction surgery. The questionnaire was completed and sent back by 24 patients (out of 40). The operating methods varied and included both reductions using the vascular pedicle (upper, lower or using the McKissock's method – fig. 1 and 2) as well as amputations (using the Thoreck's method and its modifications); the choice depended on the degree of hypertrophy, breast shape, patient's age and expectations.

Most often (in 26 cases) the Thoreck's breast reduction was applied (fig. 3 and 4). It consisted on mastectomy with transferring the nipple-areola complex as a free graft. Often, also the McKissock's method was employed (12 operated patients) accompanied by transferring the nipple-areola complex upwards on the upper-lower vertical pedicle. In all cases, the skin was incised using the Wise pat-

tern with the resulting formation of scar in the shape of an inverted T.

During one of the procedure, 5900 g of the left breast was removed and 4750 g of the right one. In total, 10 650 g of tissue was excised, which was about 10% of the body weight. The follow-up examination performed two years after the surgery revealed the additional weight loss of more than 16 kg – the body weight was 80 kg. The patient did not agree to corrective surgery aimed to improve the shape and position of the nipple-areola complex.

RESULTS

Patients were operated due to hypertrophic and sagging breasts (36 patients), mastodynia (2) and breast asymmetry (2). In 54% of patients, the symptoms appeared in adolescence, in 33% during pregnancy and in the remaining 13% some other time (fig. 5). From 1200 g to 10 650 g of the tissue was removed (fig. 4).

The graph shows the moment when breast hypertrophy occurred in patients. It is worth noting that the two largest groups, which constitute together more than 80%, are young women. In this group of patients, the condition may have an impact on work, functioning in society and the development of chronic diseases in the future.

The most common indications for surgery included orthopaedic conditions such as degenerative changes of the spine and the status after hip or knee replacement, but also hygienic and psychological reasons like chafed skin folds under the breasts, changes on the skin over the clavicules of social or self acceptance. Orthopaedic surgeons referred to the Plastic Surgery Clinic as often as family doctors, rarely other specialists: medical therapist, oncologist and others (fig. 6).

QUESTIONNAIRE RESULTS

According to the responses given by patients in the questionnaire, all of them experienced back pain; 50% assessed it as very severe, 46% as hampering the activity and 4% as low. 22 out of 24 subjects noticed the significant improvement after surgery (in the remaining 2 cases discopathy was diagnosed). The improvement in terms

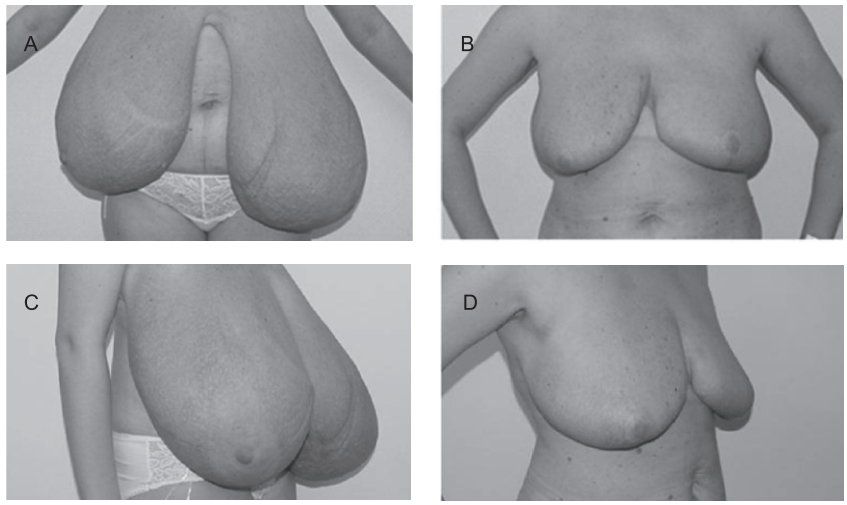

Fig. 4. A 35-year-old patient with giant breast hypertrophy. Height: 176 cm. Weight 107 kg.
A and C – before surgery; B and D – after breast reduction using the Thoreck's method.

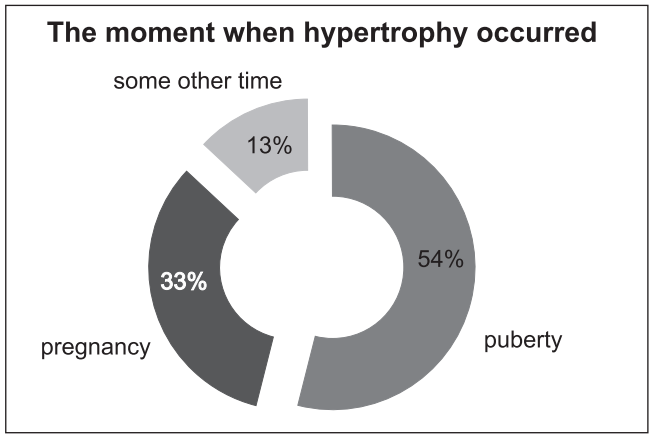

Fig. 5. The graph shows the moment when breast hypertrophy occurred in patients. It is worth noting that the two largest groups, which constitute together more than 80%, are young women. In this group of patients, the condition may have an impact on work, functioning in society and the development of chronic diseases in the future.

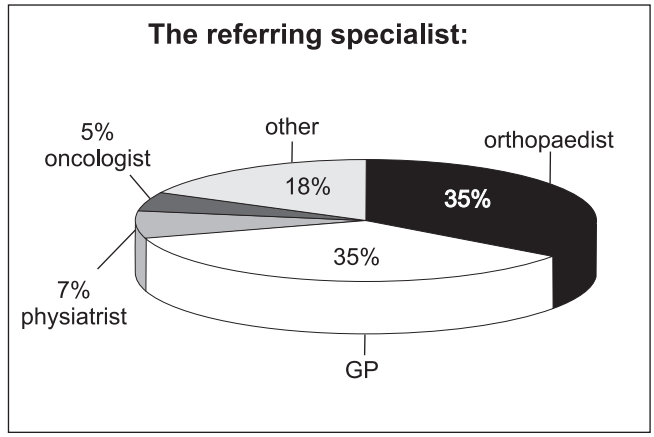

Fig. 6. The percentage distribution of specialists who referred patients to the Plastic Surgery Clinic.

of annoying shoulder pain caused by the pressure of bra straps was reported by all patients. It was most evident in patients who manifested the ailment immediately after getting dressed (72.2% of subjects) – in 83.3% of patients from this group shoulder pain subsided completely. In the group of patients who manifested pain at the end of the day, in 50% it subsided completely after surgery, but in 33.3% it remained unchanged. Headaches in patients with breast hypertrophy are associated with the neck muscle tension (5). As the study results are inconclusive, in 83.3% of subjects it is difficult to connect changes in the intensity of headaches reported in the questionnaire with the surgery. The skin rashes in the folds under the breasts resolved completely in almost all patients, 1 patient reported an improvement without complete resolution and 1 patient with severe and persistent changes did not notice any improvement with respect to these symptoms. As the problem of finding proper clothes that would fit the figure of women with breast hypertrophy was common, they did not feel confident and comfortable. After surgery, 95.5% of subjects ceased to notice the problem as a significant obstacle in life compared to the preoperative assessment.

As hypertrophic breasts may hinder the physical activity, 25% of subjects declared a complete inability to perform the physical exercises, 33.3% reported inability to perform dynamic exercises and 29.5% regarded it as noticeable handicap (total 87.5%). After

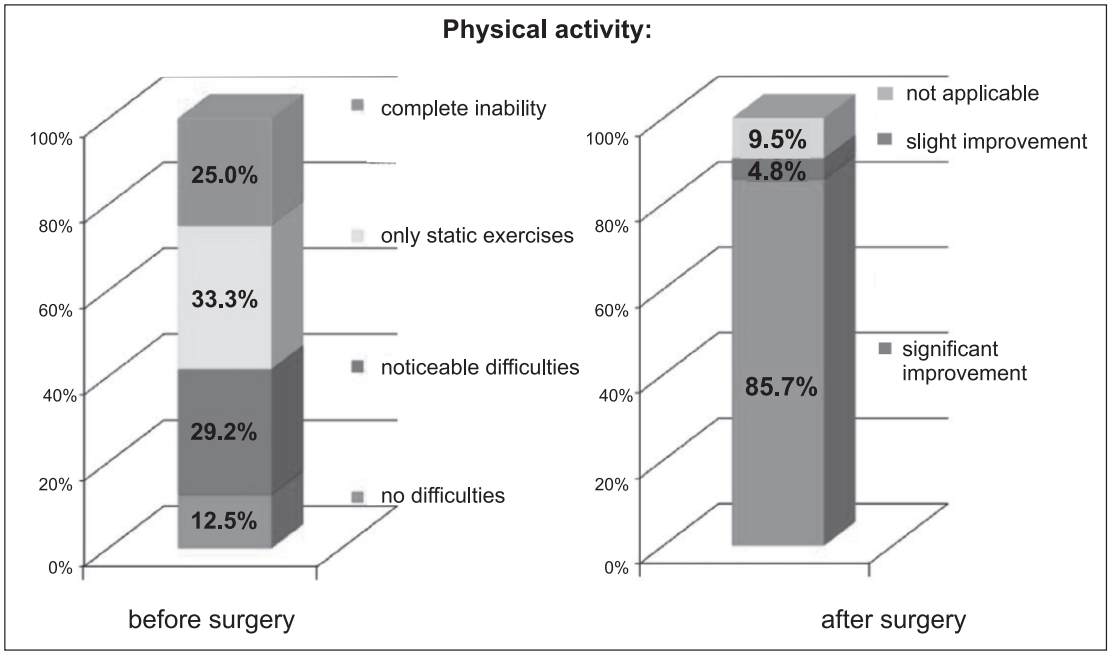

Fig. 7. The majority of patients found the activity difficult or even impossible. After breast reduction, almost 90% saw an increase of comfort during physical exercises and thus they were more willing to make their lifestyle more active.

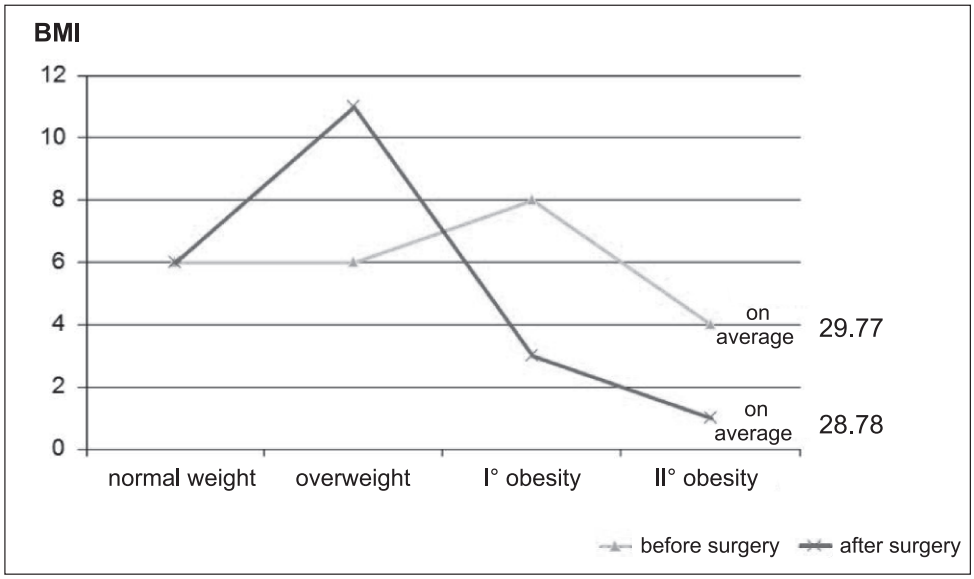

Fig. 8. The mean BMI decreased in patients after breast reduction during minimum 3-month follow-up. The group of obese patients was significantly reduced – some time after surgery a few patients from this group were qualified for the overweight BMI range.

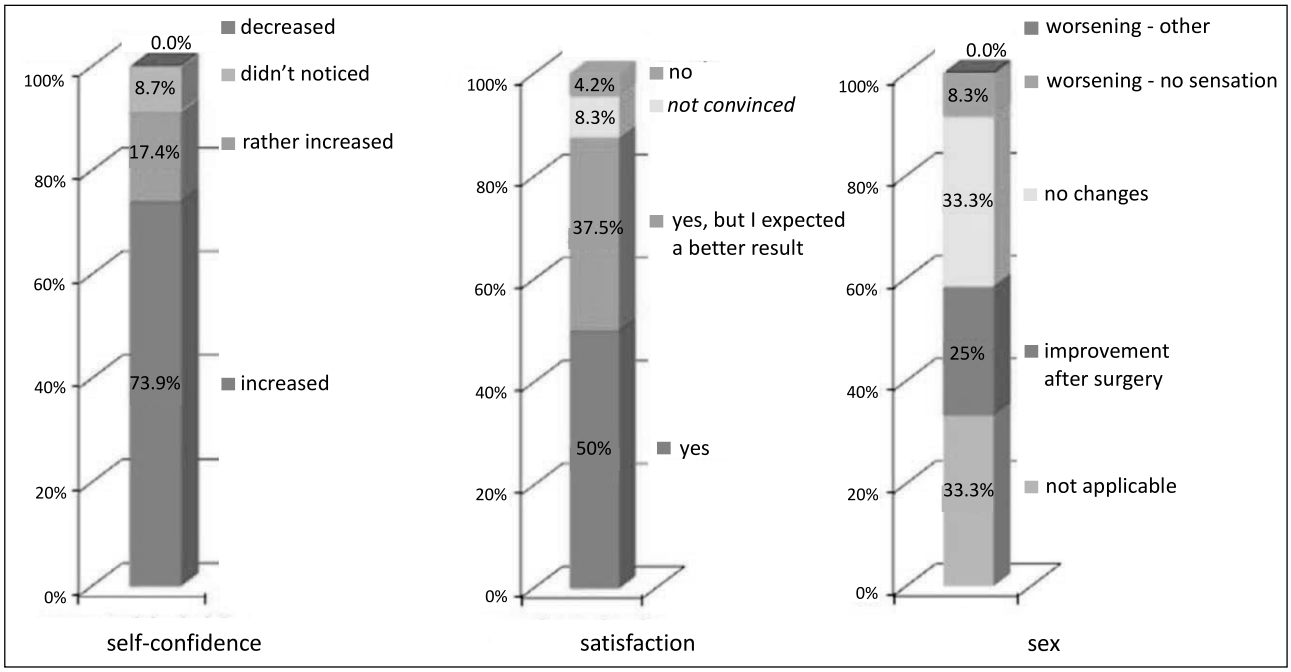

Fig. 9. The graphs show the change in psychosocial aspects of life in patients after breast reduction.

breast reduction surgery, most patients (85.7%) noticed the significant improvement (fig. 7). A potential change in lifestyle dictated by the above improvements is likely to have an impact on the next tested parameter – the change in BMI. The graph shows that during minimum 3-month observation of the study group, the number of patients with 2nd and 3rd degree obesity dropped in favour of the overweight group. The number of patients with normal body weight remained unchanged. The mean BMI value 29.77 reduced to 28.78 (fig. 8).

The mean BMI decreased in patients after breast reduction during minimum 3-month follow-up. The group of obese patients was significantly reduced – some time after surgery a few patients from this group were qualified for the overweight BMI range.

In this group of patients, changes in the BMI distribution may have a relationship with an improvement of self-esteem and self-confidence. This was reported by 73.9% of subjects. Satisfaction with the intimate life is also an important psychosocial aspect. Out of 66.7% sexually active subjects – 25% reported an improvement in this sphere of life, 33.3% did not notice any change, 8.3% complained of the loss of sensation with the nipples, which resulted in a decrease of sexual pleasure (fig. 9). The graphs show the change in psychosocial aspects of life in patients after breast reduction.

In response to the question concerning the overall assessment of the therapeutic result, 87.5% of patients were satisfied, though 37.5% expected a better aesthetic result. To the question: "If you could turn back time, would decide to breast reduction surgery?" all patients responded "Yes, I would".

DISCUSSION

Breast reduction is the subject of numerous scientific studies from around the world. Authors analyze the results of operations and prove their effectiveness in reducing pain, mental and psychosocial consequences for the patient as well as the positive impact of treatment on the quality of life assessed in standardized questionnaires (1-10). Qualification for surgery and the choice of method must be adjusted to the patient, her anatomy, breast shape, lifestyle, psychosocial profile and expectations. The arbitrary criterion of the mass of removed tissue is not justified, as low and thin patients may experience discomfort due to breast hypertrophy, whereas this could not pose a problem to high and massive women. Therefore, an essential criterion should be a thorough medical assessment and the history of symptoms experienced by the patient. The above analysis applies only to women who actively sought help of surgeon and underwent breast reduction, which as noticed by Spector and Karp (1), is mentioned in many publications. Hence, we can pose a question: what about patients with breast hypertrophy who do not report to the doctor? Is their quality of life the same as in the case of the average woman in the population? In the study conducted on a large group of patients (nearly 300) in 2001, Kerrigan (10) shows that the quality of life of patients with breast hypertrophy who do not report for surgical treatment is significantly lower than in women from the control group. The reasons for their passive attitudes are probably very different. However, we should strive to ensure the awareness of therapeutic options and universal access to necessary medical services.

CONCLUSIONS

The study data confirm the results of analysis conducted by many authors in previous years and prove a significant social role of the breast hypertrophy treatment. Breast reduction not only reduces pain, stimulates

patient's physical and social activity and improves the quality of life, but can also reduce the risk or delay the onset of lifestyle diseases. This results from a change in the mental attitude, lowering BMI and removing one of the reasons for the progress of degenerative changes. Therefore, breast reduction should be considered as therapeutic and preventive treatment regardless of the severity of hypertrophy. Qualification of patients for the treatment to a large extent ought to be determined by complaints.

BIBLIOGRAPHY

1. Spector J, Karp N: Reduction Mammaplasty: A Significant Improvement at any size. Plastic and Reconstructive Surgery 2007; 120(4): 845.
2. Saariniemi K, Kuokkanen H, Tukiainen E: The outcome of reduction mammaplasty remains stable at 2-5 years follow-up: A prospective study. Journal of Plastic Reconstructive & Aesthetic Surgery 2011; 64: 1573-1576.
3. Blomqvist I, Eriksson A, Brandberg Y: Reduction mammaplasty provides long-term improvement in health status and quality of life. Plast Recconstr Surg 2000; 106: 991-997.
4. Wagner DS, Alfonso DR: The influence of obesity and the volume of resection on success in reduction mammaplasty: An outcome study. Plast Reconstr Surg 2005; 115: 1034-1038.
5. Ducic I, Iorio M, Al-Attar A: Chronic Headaches/Migraines: Extending indications for breast reduction. Plastic and Reconstructive Surgery 2010; 125: 44.
6. Cerovac S, Ali F, Blizard R et al.: Psychosexual Function in Women Have Undergone Reduction Mammaplasty. Plastic and Reconstructive Surgery 2005; 116: 1306.
7. Saariniemi K, Keranen U, Salminen-Peltola P, Kuokkanen H: Reduction mammaplasty is effective treatment according to two quality of life instruments. A prospective randomized clinical trial. Journal of Plastic Reconstructive & Aesthetic Surgery 2008; 61: 1472-1478.
8. Schnur PL, Schnur DP, Petty PM et al.: Reduction Mammaplasty: An outcome study. Plastic and Reconstructive Surgery 1997; 100: 875.
9. Ramon Y, Sharony Z, Mascona RA et al.: Evaluation and comparsion of aesthetic results and patient satisfaction with bilateral brest reduction using the inferior pedicle and McKissock's vertical bipedicle dermal flap techniques. Plastic and Reconstructive Surgery 2000; 106: 289.
10. Kerrigan C, Collins D, Striplin D et al.: The health Burden of Breast Hypertrophy. Plastic and Reconstructive Surgery 2001; 108: 1591.
11. Tykka E, Rasannen P, Asko-Seljavaara S et al.: Cost-utility of breast reduction surgery – Aprospective study. Journal of Plastic Reconstructive & Aesthetic Surgery 2010; 63: 87-92.

received/otrzymano: 25.03.2013
accepted/zaakceptowano: 08.05.2013

Address/adres:
*Maciej Kulicki
Plastic Surgery Clinic of the Postgraduate Education Centre
ul. Tamka 6/8 m. 12, 00-349 Warszawa
tel.: +48 501-209-109
e-mail: kulicki@mp.pl