



Case Report

A 16-year follow-up on a juvenile macromastic patient

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ABSTRACT

The need for persons to undergo surgery becomes necessary in persons with breast hypertrophy. This study was carried out on a patient with juvenile macromastia sixteen (16) years after surgical treatment at the Komfo Anokye Teaching Hospital in Kumasi, Ghana. The patient answered a questionnaire which included her pre- and post-surgery experience, her reproductive life, as well as improvement in psychological and physiological well being. After surgery, she no longer experienced any psychological complication; she now has a good self-esteem and has developed a positive self image. However, physical examination showed a distortion in her left breast. Her quality of life encompassing her physiological and psychological experiences have positively improved after surgery and she is very satisfied with her current state even though there is an obvious deformity in her left breast.

Keywords: Juvenile macromastia, Psychological and physiological complications, Silicone implant, Quality of life.

INTRODUCTION

Breast hypertrophy, a condition in which there is excessive enlargement of the breast though not fatal poses several discomfort to adolescents and persons who experience it. Persons who suffer from the condition are exposed to physiological and psychological complications which affect their quality of life. Surgeries such as reduction mammoplasty and subcutaneous mastectomy are some of the techniques employed for persons with such situation.

Surgical procedures are the best remedies providing long-lasting outcomes. Furthermore, breast reduction surgery can improve functional capacity, including the ability to complete domestic tasks, dress oneself, maintain personal hygiene, walk and exercise (Collins et al., 2002; Freire et al., 2007). The use of implants is in some situations a necessity to correct the breast. Saline or Silicone gel breast implants, depending on the choice of the patients, could be used in the correction of the breast. Even though these implants help the individual in gaining her self confidence, after some years, some people experience some complications such as capsular

contracture which is the most common complication reported, while others have to undergo re-operation as a result of implant rupture (Tadaoki et al., 1993). As implant rupture increases with age of implant, it is advised that implant recipients go for regular reviews to aid in early detection and diagnosis either by Mammography or the use of Magnetic Resonance Imaging (MRI); however, MRI is preferred as it provides a more accurate detection of implant rupture and leakage (Melmed, 1998).

This study was carried out in July, 2013 on a patient who had juvenile macromastia and underwent bilateral total subcutaneous mastectomy with immediate breast reconstruction using silicone breast implants in July 1997 i.e. 16 years ago.

CASE PRESENTATION

History

In July 1997, a young girl 13 years of age with extremely

large breasts was brought by personnel of **Daily Graphic**, a Ghanaian newspaper, to the Reconstructive Plastic Surgery and Burns Unit of the Komfo Anokye Teaching Hospital (KATH) and was diagnosed as juvenile macromastia. At age 12, her breasts began to grow rapidly and within eight months they had increased in size enormously. Results of endocrinal investigations carried out on her were normal.

The type of surgery employed for the patient was bilateral subcutaneous mastectomy with immediate mammary reconstruction using silicone breast implants and nipple-areolar complex free grafts. The patient received intra-operatively six pints of O-positive cross-matched and screened blood. The surgery took six and a half hours. Tissue excised from both breasts weighed 15.5kg; 8.0 kg and 7.5kg from the left and right breasts respectively. This was the very first of such surgeries carried out in the Reconstructive Plastic Surgery and Burns Unit of the Department of Surgery, KATH, founded and headed by Dr. Pius Agbenorku, 4 years earlier (1993). The surgical team comprised of persons in various specialties: “plastic surgery, general surgery, nursing and anaesthesia”.

Current status

Sixteen (16) years after this patient had undergone the surgery, it was decided to do a follow-up on this young lady, now 29 years of age. After diligent search for her location, she was transported to the hospital for the study. The team sought to find out the result of the surgery and how the patient had been coping. She consented giving her full approval and support to partake in the study after she was told the purpose of the study. Reminiscing her experience 16 years ago, she told the team of how large the breasts had developed (Figure 1). She said the breasts became very huge to the extent that she could not do anything and that it affected her education since she could no longer go to school; she was often teased, could not partake at all in sports and gradually developed a low self-esteem. Her breasts on pre-surgery and post-surgery are shown in Figures 1 – 3.

Reproductive life

On her reproductive life, she answered that she carried two pregnancies and did not experience any complications. Since there was no breast tissue, milk production was absent and subsequently there were no changes in breast size during and after the pregnancies. Enquiring about her experiences as a mother who could not breastfeed her babies after delivery and if she felt any remorse, she confirmed she had no regrets and was always thankful to this scope of science which had helped saved her life. Asking about how she fed her first child since she could not do the normal breastfeeding, she said she was advised to feed the child on processed

baby foods. She told the team she lost her first child from severe malnourishment and malaria at 6 months as she could no longer afford the baby's food, but her second child is been catered for by *Charis Missions International*, a non-governmental organization registered in Ghana.

Ethical clearance

Ethical clearance for this study was obtained from the Kwame Nkrumah University of Science and Technology School of Medical Sciences/Komfo Anokye Teaching Hospital Committee on Human Research, Publication and Ethics, Kumasi.

DISCUSSION

Pre- and Post- Surgery Review

Psychological complications arising from breast hypertrophy have been reported by quite a number of authors. Teasing from peers, developing a low esteem and having a low quality of life can be pretty stressful. Doing away with what one loves to do as a result of a life situation or disease condition can be very challenging. But now, due to the surgery, people with this same condition and possibly worse can be well catered for. Young girls are faced with intense psychological problems incapacitating them in school activities and social relations (Rohrich et al., 1998) due to unnecessary staring and attention they draw from people, teasing and calling them with funny names which affect their professional and social life negatively (Rosen, 1993). Improvements in psychological well-being and quality of life include increases in extroversion, emotionally stability, self-esteem, decrease in anxiety and depressive symptoms (Saariniemi et al., 2008). Stating emphatically that she has no regrets since undergoing surgery, she is more comfortable now; she likes the size of the breasts and is now able to passionately discharge her duties without facing any difficulty.

The symptoms of female symptomatic breast hypertrophy include the following: backache, neck pain, shoulder pain, less frequently headache, upper extremity peripheral neuropathy, postural change with a tendency toward dorsal kyphosis, problems associated with breast weight and brassiere support, such as clavicular strap grooves (Sokol, 2013). However, after surgery she no longer experienced any musculoskeletal pains. Enquiring about her reproductive life, she had her first pregnancy which she carried to full term during which period she felt normal since there were no complications. A retrospective cohort study conducted in Sweden found no evidence of increased risk of adverse health outcomes among children born to women with breast implants after a mean follow-up of 8.9 years (Signorello et al., 2001). Following breast implant surgery, about one in seven women find that their nipples are less sensitive or completely desensitized while in other instances there



Figure 1. Pre- Surgery



Figure 2. Post-surgery (3 weeks)



Figure 3. Post-surgery (16 years)

may be increased sensitivity in breast implants recipients; sometimes, the nipples can become so sensitive and may cause pain (NHS Choices). Increased sensitivity usually lasts for between three to six months (NHS Choices). More so, she affirms having sensitive nipple and that the surgery had no effect on the degree of sensitivity of the nipples. Breast implants are medical devices used in enhancing breast size, reconstructing the

breast or correcting a congenital abnormality (FDA Update on the Safety of Silicone Gel-Filled Breast Implants). These implants consist of a silicone outer shell and filler (most commonly silicone gel/saline). The longer implants are in place, the greater the cumulative risk for developing capsular contracture; they also reported that in spite of the side effects, local complication and high rate of re-operation, patients reported a high level of

satisfaction. More so, according to the US Food and Drugs Administration (FDA), 20-40% of patients who receive silicone implants for cosmetic purposes will need another surgery to modify or remove them within ten years (FDA Update on the Safety of Silicone Gel-Filled Breast Implants, 2011). Significant incidences of local complications and side effects from breast implants have been reported (Collis and Sharpe, 2000; Brown et al. 2001; Nahabedian et al., 2003; Cunningham et al. 2000). In this patient, breast implant containing silicone gel was used in the reconstruction of her breasts. Implant placement for this very patient was on the pectoralis muscle in the skin envelope. After careful physical examination, it was observed that, there was distortion in her left breast which could imply she has developed capsular contracture. However, the patient under review has not undergone examination. Kjoller et al., (2003) reported in their MRI study that capsular contracture was the most common complication occurring in 11.4% of implantation on average 621 days post-operatively on 754 Danish women who received cosmetic breast implants. In their study, Homlich et al., (2004) found out that age of implant was significantly associated with rupture prevalence among second and third generation implants. Capsular contracture has been reported in patients who undergo post-mastectomy implant based reconstruction after receiving pre-operative chest wall irradiation (Alderman et al., 2000; Ascherman et al., 2006; Spear and Onyewu 2000; Krueger et al., 2001). According to Jacobson et al., (2012), capsular contracture is one of the most common cause of re-operation following augmentation. However, the need for re-operation depends on the implant discomfort with the capsular contracture; revisional surgeries in a large number of implant recipients have also been reported (Tadaoki et al., 1993; Netscher et al., 1997; Hammond et al., 1999; Melmed, 1998). Ultrasound has 50-77% (Venta et al., 1996) and 55-84% specificity (Venta et al., 1996; Caskey et al., 1994) in the detection of silicone implant rupture while MRI has a sensitivity of 72-94% sensitivity and specificity of 85-100% for the diagnosis of silicone implant rupture (Ikeda et al. 1999). It has been advised that women with silicone implants should regularly receive MRI evaluation of the implants at least 3 years after surgery and then every 2 years (U.S. Food and Drug Administration, 2006).

Reproductive life

Surgical technique employed was bilateral subcutaneous mastectomy with immediate mammary reconstruction using silicone breast implants and nipple-areolar complex free grafts; hence, there is no mammary gland available to produce milk. Breast milk provides nourishment for infants but depending on the kind of surgery employed, implant recipient can either breastfeed or otherwise. Women who undergo mastectomy cannot breastfeed

whiles others who undergo surgery in which the breast tissue is retained can breastfeed (Koren and Ito, 1998). Breast milk production could be possible in implant recipients depending on site of implant placement. If incision is made under the fold of the breast through the armpit and the implant inserted, breastfeeding is possible; however, if incision is made around the nipple, the milk ducts or nerves could be damaged and that could affect the woman's ability to breastfeed (Breast Implants and Breastfeeding).

CONCLUSION

Even though the patient reported improvement in her quality of life, including the overcoming of the psychological complications, physical examination showed that she had developed implant capsular contracture. It is encouraged that persons who receive implants should go for regular checkups to aid in early detection of complications. The patient in this study since the time of surgery has not reported for any of such follow-ups for detection of any complication either by Mammography, Ultrasound or MRI.

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Conflict of interest

The authors declare no conflicts of interest in this work.

REFERENCES

- Alderman AK, Wilkins EG, Lowery JC, Kim M, Davis JA (2000). Determinants of patient satisfaction in post mastectomy breast reconstruction. *Plast. Reconstr. Surg.* 106:769-776.
- Ascherman JA, Hanasono MM, Newman MI, Hughes DB (2006). Implant reconstruction in breast cancer patients treated with radiation therapy. *Plast. Reconstr. Surg.* 117:359-365.
- Breast Implants and Breastfeeding. Available at <http://www.justmommies.com/babies/breastfeeding/breast-implants-and-breastfeeding>
- Brown SL, Heflin B, Woo EK, Parmentier CM (2001). Infections related to breast implants reported to the Food and Drug Administration, 1977-1997. *J. Long. Term Eff. Med. Implants.* 11: 1.
- Caskey CI, Berg WA, Anderson ND, Sheth S, Chang BW, Hamper UM (1994). Breast implant rupture: diagnosis with US. *Radiology*; 190:819-823.
- Collins ED, Kerrigan CL, Kim M, Schnur PL, Wilkins E, Cunningham B (2002). The effectiveness of surgical and nonsurgical interventions in relieving the symptoms of macromastia. *Plast. Reconstr. Surg.* 109: 1556-1566.
- Collis N, Sharpe DT (2000). Silicone gel-filled breast implant integrity: A retrospective review of 478 consecutively explanted implants. *Plast. Reconstr. Surg.* 105: 1979.

- Cunningham BL, Lokeh A, Gutowski KA (2000). Saline filled breast implant safety and efficacy: A multicenter retrospective review. *Plast. Reconstr. Surg.* 105: 2143.
- FDA Update on the Safety of Silicone Gel-Filled Breast Implants (2011). Center for Devices and Radiological Health, U.S. Food and Drug Administration. Accessed June, 2013.
- Freire M, Neto MS, Garcia EB, Quaresma MR, Ferreira LM (2007). Functional capacity and postural pain outcomes after reduction mammoplasty. *Plast. Reconstr. Surg.* 119: 1149-1156.
- Hammond DC, Hidalgo D, Slavin S, Spear S, Tebbetts J (1999). Revising the unsatisfactory breast augmentation. *Plast. Reconstr. Surg.* 104: 277.
- Holmich LR, Vejborg IM, Conrad C, Sletting S, McLaughlin JK (2004). Untreated silicone breast implant rupture. *Plast. Reconstr. Surg.* 114:204–216.
- Ikeda DM, Borofsky HB, Herfkens RJ, Sawyer-Glover AM, Birdwell RL, Glover GH (1999). Silicone breast implant rupture: pitfalls of magnetic resonance imaging and relative efficacies of magnetic resonance, mammography, and ultrasound. *Plast. Reconstr. Surg.* 104:2054-2062.
- Jacobson JM, Gatti ME, Schaffner AD, Hill LM, Spear SL (2012). Effect of Incision Choice on Outcomes in Primary Breast Augmentation. *Aesthet. Surg. J.* 32 (4) 456 – 462.
- Kjoller K, Holmich LR, Fryzek JP, Jacobsen PH, Friis S, McLaughlin JK, Lipworth L, Henriksen TF, Jorgensen S, Bittmann S, Olsen JH (2003). Characteristics of women with cosmetic breast implants compared with women with other types of cosmetic surgery and population-based controls in Denmark. *Ann. Plast. Surg.* 50:6–12.
- Koren G, Ito S (1998). Do silicone breast implants affect breastfeeding? Available at http://www.motherisk.org/prof/updatesDetail.jsp?content_id=311
- Krueger EA, Wilkins EG, Strawderman M, et al. (2001). Complications and patient satisfaction following expander/implant breast reconstruction with and without radiotherapy. *Int. J. Radiat. Oncol. Biol. Phys.* 49:713-721.
- Melmed EP (1998). A review of explantation in 240 symptomatic women: A description of explanation and capsulectomy with reconstruction using a periareolar technique. *Plast. Reconstr. Surg.* 101: 1364.
- Nahabedian MY, Tsangaris T, Momen B, Manson PN (2003). Infectious complications following breast reconstruction with expanders and implants. *Plast. Reconstr. Surg.* 112: 467-476.
- NHS Choices (2013). breast implants- complications <http://www.nhs.uk/Conditions/Breast-implants/Pages/Complications.aspx> Accessed May..
- Netscher DT, Sharma S, Thornby J, Peltier M, Lyos A, Fater M (1997). Aesthetic outcome of breast implant removal in 85 consecutive patients. *Plast. Reconstr. Surg.* 100: 206-219.
- Rohrich RJ, Beran SJ, Restifo RJ, Copit SE (1998). Aesthetic management of the breast following explantation: Evaluation and mastopexy options. *Plast. Reconstr. Surg.* 101:827-837.
- Rosen M (1993). "Now I Can Be Free". Vol. 39, No. 16. People Magazine.
- Saariemi KM, Keranen UH, Salminen-Peltola PK, Kuokkanen HO (2008). Reduction mammoplasty is effective treatment according to two quality of life instruments. A prospective randomized clinical trial. *J. Plast. Reconstr. Aesthet. Surg.* 61: 1472-1478.
- Signorello LB, Fryzek JP, Blot WJ, McLaughlin JK, Nyrén O (2001). Offspring health risk after cosmetic breast implantation in Sweden. *Ann. Plast. Surg.* 46:279– 286.
- Sokol AB , Accessed, 2013. Breast Reduction (Reduction Mammoplasty). <http://www.sokolmd.com/Reduction.php>
- Spear SL, Onyewu C (2000). Staged breast reconstruction with saline-filled implants in the irradiated breast: recent trends and therapeutic implications. *Plast. Reconstr. Surg.* 105:930-942.
- Tadaoki M, Kansei K, Toshiaki M, Mitsunori S, Miki H, Hiroyuki I, Yasumasa M, Hideki Nakanishi (1993). Juvenile gigantomastia: Report of a case. *Surgery Today* 23 (3): 260–4.
- U.S. Food and Drug Administration (2006). FDA approves silicone gel-filled breast implants after in-depth evaluation: Agency requiring 10 years of patient follow-up. [FDA News P06-189](#). Available online: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2006/ucm108790.htm>
- Venta LA, Salomon CG, Flisak ME, Venta ER, Izquierdo R, Angelats J (1996). Sonographic signs of breast implant rupture. *AJR*; 166:1413-1419.

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