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RESEARCH ARTICLE

BREAST RECONSTRUCTION AFTER MASTECTOMY FOR BREAST TUMOR : ABOUT 24 CASES

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Abstract

The mutilating surgery for breast cancer causes deep somatic and psychological sequelae. Breast reconstruction can mitigate these effects and permit the patient to help rebuild their lives. Our work is a retrospective study over 7 years, from 1st January 2012 to 31st December 2019, covering 24 cases of reconstruction breast collected in the department of cosmetic and reconstructive plastic surgery of ERRAZI hospital in Marrakech. This work presents through these first operated cases, the results obtained as well as an illustrated panorama of the different surgical methods used in the service during the different surgical times. It also conducts a review of the literature, discussing our findings and reviewing the techniques currently used in the various centers for breast reconstruction. Breast reconstruction is today one of the most successful plastic surgery, however a few women use it, often because of lack of information. Every day, the surgical teams demonstrate an increasingly technical skill, in their constant search for perfection. It is clear that it is at the level of information that efforts should be intensified.

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Introduction:-

Breast reconstruction is the set of surgical means making it possible to reconstruct a volume projected into the air of a harmonious and symmetrical amputated breast with respect to the opposite breast in harmony with the patient's morphology and also making it possible to recreate an areola and a nipple. Although conservative treatments for malignant breast tumors have been in full swing for a few years, mastectomy is still indicated when it represents the only locally reasonable treatment because of the volume or the histological type of the tumor, or because there is a risk of multifocal lesions. The loss of a breast is always an important psychological trauma for the woman who undergoes it, because this mutilation obviously damages both her bodily integrity and her feminine identity. The idea of reconstruction, whether immediate or deferred, raised at the initial stage of treatment, often makes people accepting the need for a mastectomy and the treatments that may be associated. Breast reconstruction surgery is an integral part of the treatment of breast cancer; it's one of the greatest success stories of plastic surgery. Every day, the surgical teams are demonstrating an increasingly efficient technique, in their permanent search for perfection. We carried out this work which corresponds to a retrospective study of a series of 24 patients who benefited from breast reconstruction after mastectomy in the plastic surgery department of ERRAZI Hospital in Marrakech.

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Patients And Method:-

A retrospective study carried out in the plastic and reconstructive surgery department of ERRAZI Hospital in Marrakech, from January 1, 2012 to December 31, 2019. Concerning 24 patients having undergone a total mastectomy for breast cancer and who consult for breast reconstruction. Patients who had a partial mastectomy or lumpectomy were excluded.

All the patients benefited from a preoperative consultation with information and clarification concerning the modalities, the complications of the intervention. The data had been entered and analyzed statistically using EXEL software version 2010. The anonymity and confidentiality of the information was respected when collecting the data. Data were collected from medical records and identified the following items for each patient:- Age/ Family situation/ Clinical and para-clinical data before reconstruction/ Cancer treatment received/ Reconstruction time/ Means of breast reconstruction/ Duration of hospitalization/ Moment and technique of symmetrisation/ Timing and technique of MAP reconstruction/ Complications and post reconstruction results/ Degrees of patient's satisfaction.

Results:-**Epidemiological data:**

The average age of our patients was 44.75 years, with extremes ranging from 32 years to 66 years. Among the 24 patients included in our study, 8 were married and 16 patients were single.

Clinical and para-clinical data relating to anterior breast cancer:

The histological type and TNM classification could not be identified from all the files because the patients were referred to us by other departments directly for breast reconstruction.

Carcinological treatment previously received:

The 24 patients underwent a modified Patey type total mastectomy (MADEN), respecting the two pectoral muscles with the dissection of the first two ganglionic levels of Berg.

Adjuvant treatment was necessary in all the cases: - Radiotherapy: 8 patients (34%) - Chemotherapy: all patients (100%) - Hormonotherapy: 8 patients (34%).

Reconstruction time:

The average reconstruction time was 3.66 years, with extremes ranging from 2 to 7 years.

Clinical and para-clinical data before reconstruction:

Local state: 8 out of 24 patients (34%) presented dystrophic pigmented skin as a consequence of previous radiotherapy. State of the remaining breast: Breast ptosis: 16 patients (66%). Breast enlargement: 8 patients (34%). Existence of excess skin and abdominal fat: 12 patients (50%). Echo-mammography of the remaining breast: 2 patients (8%) presented a benign nodule in the contralateral breast. Extension assessment made by the oncologist did not found any abnormality. A preoperative anesthesia consultation was done for all patients in order to eliminate any contraindications.

Time of reconstruction:

Delayed reconstruction: All patients (100%) underwent delayed breast reconstruction with an average of 3.66 years. No immediate reconstruction was performed on our patients.

Reconstruction's techniques:**Reconstruction by prosthesis only:**

Concerns 6 patients (25%).

Reconstruction by Flaps:

12 patients (50%) with large back flaps, 100% of whom benefited from an associated prosthetic implant. 6 patients (25%) with TRAM.

Type of breast prosthesis used:

All the breast implants used were a pre-filled type of silicone gel, round with high profile and microtextured envelope, their volumes varied from 300 to 400cc.

Duration of hospitalization:

The average length of hospital stay for patients was: 4 to 5 days for breast reconstruction with flaps. 1 to 2 days for breast reconstruction by prosthesis.

Symmetrization:

The average time to symmetrization was 7.83 months, ranging from 6 months to one year. A reduction breastplasty for symmetrization was performed in 12 patients (50%) who presented an enlarged breast with breast ptosis.

The technique used was Mac Kisson (double vertical pedicle) in 8 of them, and the vertical technique with upper pedicle in 4 patients.

Nipple-areolar complex reconstruction:

It involved only 8 patients (34%), the others have not yet been scheduled for reconstruction. The average time for reconstruction of Nipple-areolar complex was 6.75 months ranging from 6 months to 9 months, at the same time as symmetrization for 6 of them and deferred for the two other. The technique used in the reconstruction of the areola was a skin graft taken from the inguino-genito-crural area. While the nipple is reconstructed either by a flap (F), Transplantation of part of the contralateral nipple or by Lilloise technique (flap with subcutaneous pedicle with total skin graft).

Complications:

Two partial necroses of TRAM flap (upper part of segment II of the flap). A disunity after suffering from the middle part of the bank of the abdominal skin-fatty flap after lifting of the TRAM flap. Local care was established, then excision of the necrosis and secondary suture with good progress.

Post-reconstruction results:

The degree of patient satisfaction according to the shape of the reconstructed breast is considered good by 19 patients, excellent by 2 patients, average and acceptable by 2 patients and poor by 2 patients. Touch-ups by lipofilling to correct certain irregularities in the shape are still necessary in 6 patients (25%) to fill depressions and harmonize the shape of the reconstructed breast. All the patients report, having regained their female identity and recognize the positive impact of breast reconstruction on their morale and self-esteem.

Discussion:-

In our series, the median age at which surgery was performed is 44.75 years. Stadarub [1] studied the demographic data of 578 patients operated for breast reconstruction. He found that the women undergoing reconstruction were significantly younger. Rowland [2] found the same in his study with an average age of 51.1 years. If we look specifically at the age distribution, we can see that the majority of patients are between 32 and 66 years old. This observation can be explained by 2 phenomena. This age group is the most exposed to the risk of breast cancer. The Institute for Public Health Surveillance [3] finds an average age at diagnosis of breast cancer, 61 years old, with an incidence which increases sharply after 49 years old. The age group over 60 seems less important: this can be explained by the fact that the "older" patients probably feel less the need for breast reconstruction compared to younger women for whom a mastectomy alone sometimes represents very mutilating surgery. Reaby [4] thus investigated the reasons which encouraged patients to have a reconstruction or not. One of the main reasons for patients refusing reconstruction is that they feel "too old" for this surgery. In addition, we note that this was the majority of single patients (66%). The marital situation takes a large part in the decision of reconstruction. The histological type and TNM classification of anterior breast cancer, could not be collected because the patients were referred to us by other departments directly for breast reconstruction. According to several authors [5-6], invasive ductal carcinoma represents more than 90% of breast carcinomas, whereas for Chek [7] and Bouamama [8] this rate is 74.3% and 83% respectively. All our patients had a Patey type mastectomy associated with an adjuvant treatment: Radiotherapy: 8 patients (34%), Chemotherapy: all patients (100%), Hormonotherapy: 8 patients (34%). In the Belkharoub series [9] conducted at the Oran University Hospital in Algeria 95.3% of patients had a Patey type mastectomy. In the same series 80% of the patients had adjuvant chemotherapy and 55% of the patients had adjuvant radiotherapy. Perig [10] found that

only 13% of the patients had had adjuvant radiotherapy. Soffray [11] found in his study that in 45% of patients, a preoperative radiotherapy had been performed. Excluding radiotherapy is recognized as a risk factor for poor aesthetic results as well as a decrease in satisfaction. Patani [12] compared the satisfaction of 93 patients operated for breast reconstruction with autologous technique or with implant. He found that the rate of peri-prosthetic shells in the event of radiotherapy is 87%, which at the same time seems to have a significantly negative effect on patient satisfaction. Contant [13] shows that autologous reconstruction techniques would be superior to prosthetic techniques in the case of adjuvant treatment by radiotherapy. Our series only includes deferred breast reconstructions, with an average delay of 3.66 years. Indeed, our service only opts for breast reconstruction after a period of 2 years. The delay recommended by the literature for the disappearance of post-radiation inflammatory phenomena is at least 9 months between the end of radiotherapy and breast reconstruction, and it was respected in our study. In the Belkharoub series [9] the time for breast reconstruction was between 9 months and 2 years.

A study carried out (1999 and 2006) in Denmark by Hvilsom et al. [14] objectified 99% as a rate of deferred breast reconstruction against only 1% of immediate breast reconstruction. If the respective indications of the simple implants, and the flaps are relatively well posed and accepted by all the authors, there are still many hesitations on the choice of the flap, when it is necessary. In general, you must always respect the rule of simplicity, and always choose the simplest technique, when possible. In our department, we tend to immediately prefer a tissue supply by flap, as soon as the quantity and, above all, the quality of the tissues do not allow the establishment of an implant of sufficient volume. When a tissue contribution per flap is necessary, tissue covering insufficient in quality and / or quantity, the choice of flaps remains very variable according to the authors. If obviously, microsurgical techniques cannot and should not be used in everyday practice, between the pedunculated flaps of the large back flap and the great rectus of the lower abdomen, the choice remains difficult. However, we must keep in mind the fact that this surgery is intended for patients who are often tired, weakened, or in any case tested by a serious illness, and who, less than all others, will be able to assume and accept a serious complication or failure. In our series, reconstruction using a large back flap with prosthesis, gives a very good rate of patient satisfaction. Given the great reliability of the large dorsal flap, the simplicity of its realization, and its good overall results, it seems justified to apply the rule of simplicity also to the choice of flaps. The type of prosthesis associated with breast reconstruction using a large back flap used for our patients was the type pre-filled with silicone gel, round with a high profile and a microtextured envelope, the volumes varied from 300 to 400cc. In the Belkharoub series [9] 73.6% of the prostheses used were a pre-filled type with physiological serum and microtextured shell. Even if the TRAM flap gives superior esthetic results, it remains a heavy intervention, which requires an excellent mastery of the technique. We believe that the large dorsal flap still retains a large place, the TRAM flap finds its indications: in cases when a large dorsal flap is not possible (need for too much tissue supply, vascular impossibility), and for purely aesthetic reasons, in young patients, with a good prognosis, and on the condition of mastering the technique. Finally, all the techniques of free flaps must remain an exceptional indication of last resort, because of their great complexity and low reliability. The average length of hospital stay for patients was 4 to 5 days if breast reconstruction with flaps. and 1 to 2 days if breast reconstruction by prosthesis. In a study carried out in the United States by Lee Hang-Fu [15], the duration of hospitalization in case of reconstruction by implants, complicated or not, was 1 to 4 days. Whereas in the case of breast reconstruction with a flap, the duration was 5 to 74 days. In Perig's study [10] the average number of days of hospitalization was 9 days ranging from 3 to 20 days, in fact, he found that the duration of hospitalization increases by 4 days in the event of reconstruction by flap (on average 12 days) versus reconstruction with implants (on average 8 days). The symmetry required a gesture on the other breast in 12 patients (50%) who presented a contralateral breast ptosis, which required a reduction breast plasty.

In Perig's series [10], 47% of the reconstructions by prosthesis and 34% by flap of the large dorsal, required a secondary symmetrisation. Guyomard [16] carried out a study on French and English patients operated for breast reconstruction, in order to find the aesthetic determinants which mainly impact patient's satisfaction. He highlights that French and English patients attach more importance to the symmetry and shape of their breasts than the volume or the scars generated. The reconstruction of Nipple-areolar complex presents a difficulty in the reproduction of the nipple relief. The main flaw of the results is that they are not stable over time. In our series, the best results were obtained with "F" flap. The areola colour is often too pale. However, we found that patients paid little attention to the details of the nipple patch. On the other hand, its position on the breast is more important, certainly because it contributes significantly to the effect of symmetry.

60% of patients have simple operating suites. The post-operative complications of our series are mainly represented by skin necrosis or disunity after suffering from the middle part of the bank of the abdominal skin-fatty flap after

removal of the TRAM flap. The rate of post-operative complications is higher in the case of flap reconstruction. Thus Dr. Tony Zhong [17] compared the rate of complications between breast reconstruction by flap and breast reconstruction by implant. He found a rate of 28% in the case of breast reconstruction by flap, against only 4% in the case of breast reconstruction by implant. This finding can be explained by the extended operating time in case of breast reconstruction by flap as well as by the difficulty of the operating technique. Soffray [11] objectified in his study that 30% of the patients had presented complications.

The shape, the volume and the scar are the main parameters allowing to appreciate the esthetic result, thus the volume is very often considered as satisfactory, whatever the technique. And it is always an excess of volume which is at the origin of a less good appreciation from the patients. None suffer from a breast that is too small, on the contrary, the patients are delighted to benefit from breast reduction. The majority of our patients (84%) tolerated their scars. The aesthetic result of the reconstructed breast appears mainly successful with generally an improvement of the scar over time. Rosengvist [18] studied the quality of life and satisfaction of 20 patients who had breast reconstruction. This evaluation was carried out 3 months post-operatively and then one year later. He finds that 8 out of 19 patients find that their results are better than they hoped for. This unexpected satisfaction of patients therefore leads to a better aesthetic result initially and which then improves further over time and possible "touch-ups".

On a psychological level, the moral state remains good to excellent in most patients after breast reconstruction. A recent study shows that roughly 80% of patients also classify their final result as good or excellent. The moral condition of these patients with serious illness depends on many factors, but among those who have regained excellent morale, more than half think it is thanks to breast reconstruction. If we consider the main objective of breast reconstruction, namely to allow a good quality of life and a family, a success greater than 90% was obtained in our series. Finally, we note that almost 33% of patients deplore insufficient, or even completely non-existent, information concerning the possibilities of breast reconstruction. We think it is important to emphasize this point. We have already insisted that the request for reconstruction must come from the patients, but for that, they must be informed of the existence of such surgery. Which is rarely the case, and this also partly explains why a very small number of mastectomized patients resort to breast reconstruction.

Conclusion:-

Breast reconstruction, by what it has brought to women, is today asserting itself as one of the greatest successes of plastic surgery, and yet, few women resort to it, because of a lack of information. It brings a lot to patients in terms of rehabilitation, well-being, and quality of life. Many technical possibilities currently allow breast reconstruction to be offered to the majority of patients.

Daring to undertake a difficult act with confidence does not preclude prudence or modesty. Because women expect a lot from us, we must give them a lot and always favor the simplest, safest technique, the one that is best mastered.

References:-

- 1- Staradub VL, Hsieh Y-C, Clauson J, Langerman A, Rademaker AW, Morrow M. Factors that influence surgical choices in women with breast carcinoma. *Cancer*. 15 sept 2002;95(6):1185-1190.
- 2- Rowland JH, Desmond KA, Meyerowitz BE, Belin TR, Wyatt GE, Ganz PA. Role of breast reconstructive surgery in physical and emotional outcomes among.
- 3- Projection de l'incidence et de la mortalité par cancer en France en 2011. Rapport technique. Saint Maurice: institut de veille sanitaire; 2011. 78p.
- 4- Reaby LL. Reasons why women who have mastectomy decide to have or not to have breast reconstruction. *Plast Reconstr Surg*. juin 1998;101(7):1810-1818.
- 5- S. Ben AHMED et Al. Pronostic du cancer du sein chez les femmes tunisiennes : analyse d'une série hospitalière de 729 patientes, *Santé publique* 2002/3, N° 14, p. 231-241.
- 6- Jobsen, J. van der Palen and J. H. Meerwaldt. The impact of age on local control in women with pT1 breast cancer treated with conservative surgery and radiation therapy. *Eur J Cancer*, 2001; 37(15) :1820-7
- 7- Clough, et al. Diagnosis of breast tumours: fine needle aspiration versus microbiopsy. *Gynécologie Obstétr Fert*, 2005 ; 33 : 539.
- 8- I. Bouamama et al. Le cancer du sein chez la femme jeune : particularités épidémiologiques, génétiques, pathologiques, biologiques et thérapeutiques *Cancer/Radiothérapie* 13 (2009) 644-697

- 9-** Belkharoub K. Thèse : Cancer du sein Reconstruction mammaire après mastectomie. Oran (Algérie) 2012. Etude rétrospective à propos de 54 cas.
- 10-** Perig.M Thèse: Elaboration d'un arbre décisionnel pour poser l'indication d'une reconstruction mammaire immédiate ; à partir d'une étude rétrospective de 95 cas consécutifs de mastectomie avec reconstruction mammaire immédiate après cancer du sein. Paris 2003.
- 11-** Soffray.F, Tribondeau.P. Reconstruction mammaire par lambeau musculocutané unipédiculé de muscle grand droit de l'abdomen (115 cas consécutifs). Ann. De chirurgie plastique esthétique (2008) 53,309-317
- 12-** Patani N, Devalia H, Anderson A, Mokbel K. Oncological safety and patient satisfaction with skin-sparing mastectomy and immediate breast reconstruction. Surg Oncol. août 2008;17(2):97-105.
- 13-** Contant CME, van Geel AN, van der Holt B, Griep C, Tjong Joe Wai R, Wiggers T. Morbidity of immediate breast reconstruction (IBR) after mastectomy by a subpectorally placed silicone prosthesis:the adverse effect of radiotherapy. Eur J Surg Oncol EJSO. juin 2000;26(4):344-350.
- 14-** Hvilsoom GB, Holmich LR, Frederiksen K , et al. Socioeconomic position and breast reconstruction in Danish women .Acta Oncol 2011;50:265-73.
- 15-** Hang-Fu L, Snyderman RK. Cancer. 1991 Sep 1;68(5 Suppl):1148-56.
- 16-** Guyomard V, Leinster S, Wilkinson M, Servant J-M, Pereira J. A Franco-British patients' and partners' satisfaction audit of breast reconstruction.J Plast Reconstr Aesthet Surg. juin 2009;62(6):782-789.
- 17-** Mortenson MM, Schneider PD, Khatri VP, Stevenson TR, Whetzel TP, Sommerhaug EJ, et al. Immediate breast reconstruction after mastectomy increases wound complications: however, initiation of adjuvant chemotherapy is not delayed. Arch Surg. 2004;139(9):988.
- 18-** Rosengvist S, Sandelin K, Wickman M. Patients' psychological and cosmetic experience after immediate breast reconstruction. Eur J Surg Oncol EJSO. 1996;22(3):262-6.