wjpmr, 2021,7(6), 31-35

SJIF Impact Factor: 5.922

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Research Article

ISSN 2455-3301

WJPMR

THE RADIO-HISTOLOGICAL CORRELATION OF SUBCLINICAL BREAST LESIONS (32 CASES)

***Dr. A. Benani, R. Watfeh, K. Matar, Pr. M. Yousfi and Pr. S. Bargach**

Department of Gynecology- Obstetrics Canerology and High Risk Pregnacies Unit Maternity Souissi Hospital Ibn Sina Rabat.

***Corresponding Author: Dr. A. Benani**

Department of Gynecology- Obstetrics Canerology and High Risk Pregnacies Unit Maternity Souissi Hospital Ibn Sina Rabat.

Article Received on 28/03/2021 **Article Revised on 18/04/2021** **Article Accepted on 09/05/2021**

SUMMARY

Our work is a retrospective study of 32 cases hospitalized for treatment of subclinical lesions detected by wire guide localization, collected department of gynecology- obstetrics canerology and high risk pregnacies unit maternity Souissi hospital ibn sina Rabat , over a period of January 2019 to December 2019. Our objective is to report the histological results of the breast lesions classified radiologically ACR4or ACR5 with the aim of estimating the radio-histological correlation and Improving the action to be taken. The average age of our patients was 49 years. Screening and breast pain are the most common reasons. Suspect opacity accounted for 56,25% of lesions detected while microcalcifications accounted for 15,62%. 87.5% of the lesions are classified BIRADS 4, while 12.5% are classified BIRADS 5. Wire localization was made for all of our patients. Histological results came back malignant in 12,5% of cases with intra ductal carcinoma 1 case, 2 cases of invasive ductal carcinomaand 1 case of Paget's disease. Our VPP of malignancy is 7.14% for ACR 4, and 50% for ACR5. Our results demonstrate that the BI-RADS classification is overestimated which requires adapting several recommendations.

INTRODUCTION

Thanks to radiological progress and to the screening policy, we are able to detect breast lesions at the subclinical stage that require a biopsy after spearfishing in order to have an anatomopathological study of the specimen and to adapt the management if there is radiological doubt.

In some cases, the anatomopathological study does not agree with the radiological results. The aim of our study is to evaluate the frequency of breast cancer among subclinical lesions classified radiologically as BIRADS 4 and 5.

RESULTS

I. EPIDEMIOLOGICAL STUDIES

A. Age

The average age of our patients is 49 years, with extremes of 29 and 69 years, the age range between 40-49 years represents 40%

B. Hormonal status

The majority of our patients are in the genital activity period, 75% of cases

C. Personal history

1. History of mastopathy

In our series, we find:

- Patey of the contralateral breast in 2000
- Tumerectomy: 2 cases
- Conservative treatment + hormonotherapie: one case

2. Gynecological history

- One case of myomectomy +hysterectomy in 2011
- One case of myomectomy

D. Family history

Four patients have a family history of breast cancer. One patient has a history of endometrial cancer.

E. Parity

7 patients (21%) are nulliparous.

F. Hormone therapy for contraception

More than half of our patients are on OC with a percentage of 57.

CLINICAL STUDIES

A. Circumstances of discovery.

Circumstances of discovery	Number of cases	Percentages (%)
Screenings	12	37,5
nipple discharge	7	21,87
Mastodynia	9	28,12
Axillary PDA	3	9,37
Eczematous lesion of the nipple	1	3,12

B. Clinical examination

a) Breast examination

Breast examination did not reveal any palpable nodule. Nipple discharge was observed in 7 patients, with a unipore location in 4 patients.

Bloody discharge was observed in 4 patients with nipple discharge and 3 with serous discharge.

b) Examination of lymph nodes

The examination found axillary PDAs in 3 patients, two patients had mobile PDAs with a size of 1cm, the third patient had a fixed PDA measuring 3cm.

I. PREOPERATIVE IDENTIFICATION

Our patients underwent a preoperative ultrasound survey.

II. TUMOR EXERESIS AFTER HARPOONING

A lumpectomy was performed in 24 patients, i.e. 75%

Depending on the type of lesion, we proceeded either to a tumerectomy.

Zonectomy, pyramidectomy in case of mammary discharge or cystectomy.

ANATOMOPATHOLOGICAL FINDINGS

A. Histological findings

Histological findings	Number of cases	Percentages %
Fibrocystic mastopathy	14	34,21
Adenofibroma	6	15,8
Sclerosing adenosis	2	5,26
Ectasitic galactophoritis	2	5,26
Granulomatous giganto-cell adenitis	1	2,63
Papilloma	1	2,63
hémangioma	1	2,63
Atypical ductal hyperplasia	1	2,63
CCI	2	5.26
CIC	1	2,63
PAGET's disease	1	2,63

Histo-mammographic correlation

	Opacity	Microcalcification	O+M	Architectural distortion	Number of cases
Adénofibroma	5	0	2	0	7
Fibrocystic mastopathy	8	2	2	2	14
Ectasitic galactophoritis	0	2	0	0	2
adenosis	0	1	1	0	2
Atypical ductal hyperplasia	0	0	1	0	1
Hemangioma	1	0	0	0	1
Papilloma	1	0	0	0	1
Granulomatous giganto-cell adenitis	1	0	0	0	1
CCI	2	0	0	0	2
CIC	0	0	1	0	1

V. EXTENSION WORK-UP

All our patients with breast cancer had an extension workup including chest X-ray and abdominal ultrasound, a scintigraphy was performed in one patient.

DISCUSSION

A. Risk factors

1. Age[1]

The incidence of breast cancer increases sharply from age 35 to 50 years and the peak incidence is at age 60 years. The estimated risk of developing breast cancer is 2.3% between 40 and 49 years of age, 7.1% between 50 and 74 years of age and 3% after 75 years of age.

In our study, the peak incidence (41%) is between 40 and 49 years of age.

2. Parity

Multiparous women have a lower overall risk of breast cancer than nulliparous women. However, this relationship is time dependent. Immediately after pregnancy, the risk of breast cancer is higher, but 10 years after pregnancy, the effect is rather protective. This protective effect is durable and global and outweighs the transient risk.[2]

In our series, 22% of the patients were nulliparous.

3. Breastfeeding

Breastfeeding seems to have a protective effect against the development of breast cancer, with a dose-response relationship. Studies have shown contradictory results in Western countries where few women breastfeed for more than one year. In contrast, significant risk reduction has been demonstrated in non-Western countries.[3]

In China, women who have breastfed for 10 years or more have a 64% risk reduction.[4] A multicenter study showed a risk reduction of 4.3% for every 12 months of breastfeeding.[5]

In our series, breastfeeding was observed in 25 women but the duration of breastfeeding was not specified in the history.

4. Contraceptive hormones

The use of contraceptives containing exogenous hormones (estrogens and progestins) may be associated with an increased risk of breast cancer.[6]

In our series, oral contraception was adopted by 18 patients.

5. Personal history

According to the literature, the risk of breast cancer appears to be nil in the category of non-proliferative diseases, whereas it is increased in the category of proliferative diseases and in particular in the case of atypical epithelial hyperplasia.[7,8]

I. PARACLINICAL STUDIES

A. Mammography

1. Mammographic aspects

a. Opacity

Round opacities represent 10 to 20% of subclinical cancers.[9] They can be the cause of unnecessary biopsies because they are difficult to see in dense or nodular breasts.[10]

They represent 20 to 30% of subclinical cancers, and more than 90% of those biopsied are cancers.[9]

In our series, isolated opacity represents the most dominant mammographic aspect with a rate of 56.2% which is slightly higher than the rates found by MIRAS (40.4%) [67] and ZEGHAL (43%).[11]

16% of our opacities were found to be spiculated (suspicious of malignancy). This finding is lower than the MIRAS study, which found 28% of opacities with a malignant appearance, as well as for our Gabonese colleagues, whose rate exceeds 20%.[10]

b. Microcalcifications

Microcalcifications may be isolated or associated with other subclinical abnormalities. Isolated microcalcifications reveal 30 to 54.5% of subclinical breast cancers, of which 75% are intracanal.[14;15]

In our study, microcalcifications were the second most common mammographic feature with a frequency of 37.49%, 21% of which were associated with opacities, this result was close to the MIRAS study.

B. Ultrasound

Breast ultrasound has a good sensitivity (80%) and a good specificity exceeding 85% according to Ozdelmir.[16,17] The combination of mammography and ultrasound has an overall sensitivity of 100% and an overall specificity of 85%.[17]

The criteria of malignancy were strongly present in our series, thus the irregularity of the contours was present in 40% of cases, the axis perpendicular to the skin represented 8% of cases, concerning the echogenicity 91% of the opacities were hypoechoic.

IV. RADIO -HISTOLOGICAL CORRELATION

in general, the probability of malignancy in BI-RADS 4 lesions ranges from 2% to 95%.[22]

Final Assessment Categories

	Category	Management	Likelihood of cancer
0	Need additional imaging or prior examinations	Recall for additional imaging and/or await prior examinations	n/a
1	Negative	Routine screening	Essentially 0%
2	Benign	Routine screening	Essentially 0%
3	Probably Benign	Short interval-follow-up (6 month) or continued	>0 % but ≤ 2%
4	Suspicious	Tissue diagnosis	4a. low suspicion for malignancy (>2% to ≤ 10%) 4b. moderate suspicion for malignancy (>10% to ≤ 50%) 4c. high suspicion for malignancy (>50% to <95%)
5	Highly suggestive of malignancy	Tissue diagnosis	≥95%
6	Known biopsy-proven	Surgical excision when clinical appropriate	n/a

BIRADS recommendation

In our study, the positive predictive value is 12.5% of the lesions in our sample.

Our cancer rate for BI-RADS 4 is 7.12% which remains lower than the results obtained in the zeghal study where the cancer rate is 28.6%[11] while the study of Chelli, , revealed a rate of 43% of malignancy.[23]

In our study, the positive predictive value for BI-RADS 4 lesions is (7.12%), among these results 100% are revealed invasive ductal carcinoma while Raza et al found that 80% (n = 68/85) are invasive ductal carcinoma.[24]

Our study revealed that 94.12% of BI-RADS 4 had benign findings which is comparable to the results obtained by Raza et al which was 75.2%.[24]

Indeed, this category is reserved for findings that do not have the classic appearance of malignancy but sufficiently suspicious to warrant a recommendation for biopsy or our positive predictive value is 7, 12% which agrees with the probabilities of BI- RADS 4 which has a wide range of probability of malignancy (2-95%).[20,21] Therefore, the ACR has subdivided category 4 into 4A, 4B and 4C, and the relevant probabilities for malignancy have been classified according to these subgroups so that the patient and her physician can make an informed and accurate decision on what to do.

Our results can be explained by lesions simulating malignancy on ultrasound such as fibrosis and chronic abscesses. Correct use of the BIRADS system logically leads to an accurate assessment of the lesions and an appropriate management recommendation. The literature shows that training in BI-RADS can decrease variability and improve performance.[21]

The clinician should pay more attention to the biopsy of discordant benign lesions to avoid false-negatives, as Liberman et al found that 64% of discordant benign lesions were confirmed as malignant in subsequent surgery.[22] Hence the importance of communication between the various physicians involved in the management of breast cancer, as the BIRADS recommendations have become the pivotal point of action

The role of the multidisciplinary team is necessary for optimal management and cooperation between radiologists, anatomical pathologists, surgeons and oncologists is essential for radiopathological concordance.

However, in our practice, surgical biopsy-exeresis is generally recommended regardless of concordance, because of the still relatively high malignancy rate and the limitations of microbiopsy:

- Several teams, Jackman and Liberman, have shown that underestimation of histologic criteria for lesion severity was possible on microbiopsies, but never overestimation.
- The quality of the samples, which have a very fragmented appearance, particularly for breasts with a high adipose component.
- Difficulties in locating certain areas of

microcalcifications, either because they are too fine and at the limit of visibility

CONCLUSION

The increasingly frequent discovery of breast cancer at a subclinical stage like the case of our series, allows us to suggest a radiological and not only clinical screening in patients at risk. This will have an impact on the management, the well-being of the patient and the cost for public health.

REFERANCE

1. **YASUI Y, POTTER JD**. The shape of age-incidence curves of female breast cancer by hormone-receptor status. Cancer Causes Control, 1999; 10: 431 7.
2. **LAMBE M, HSIEH C, TRICHOPOULOS D, ET AL**. Transient increase in the risk of breast cancer after giving birth. N Engl J Med., 1994; 331: 5 9.
3. LIPWORTH L, BAILEY LR, TRICHOPOULOS D. History of breast- feeding in relation to breast cancer risk: a review of the epidemiologic literature. J Natl Cancer Inst., 2000; 92(4): 302 12.
4. TAO SC, YU MC, ROSS RK, ET AL. Risk factors for breast cancer in Chinese women of Beijing. Int J Cancer, 1988; 4: 495 8.
5. Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and Breastfeeding : collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50302 women with breast cancer and 96973 women without the disease. Lancet, 2002; 360: 187 95.
6. MARCHBANKS PA, MCDONALD JA, WILSON HG, ET AL. Oral contraceptives and the risk of breast cancer. N Engl J Med., 2002; 346: 2025 32.
7. Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and hormone replacement therapy: collaborative reanalysis of data from 51 epidemiological studies of 52,705 women with breast cancer and 108,411 women without breast cancer. Lancet, 1997; 350: 104759.
8. Gairard B,Mthelin C, Schaffer P, Brettes JP, Cancer du sein épidemiologie, facteurs de risque, dépistage Rev praticien, **1998**; 48: 21-27.
9. DILHUYDY M H; LE TREUT A; DILHUYDY J M ; KIND M. The breast. In strategies in oncology. Martin Dunitz Ed, London, **1993;** 7: 145-73.
10. 71- MATHELINE ; GAIRARD B; RENAUD R; BRETTES JP. Examen clinique des seins : sein normal, lésions bénignes et frontières. EMC, Gynécologie, **1997;** 810–E-10: 1,2,7 et 8.
11. **Dorra Zeghal, Kamel Largueche, Amira Ayachi, Sami Mahjoub**, Le repérage par harpon des lésions mammaires infra-cliniques, LA TUNISIE MEDICALE, **2011**; 89(02).
12. **Sosthène Mayi-Tsonga** Corrélation radio-histologique des lésions mammaires infracliniques à partir de la classification BI-RADS**.** Centre hospitalier de Libreville (CHL), BP 2758, Libreville Gabon
13. FOULOT H Forum de sénologie- Paris, 2 décembre 1999. La lettre du gynécologue Mars, **2000;** N°250: 5-6.
14. MARIE. HELENE DILHUYDY; BEATRICE BARREAU; CORINNE AENRIQUES; ANTOINE AURIL.
15. Cancers infracliniques du sein : diagnostic et déductions stratégiques. Reproduction humaine et hormones, **1997;** X: 267-278.
16. FONDRINIER E. Les microcalcifications isolées du sein. Gynécologie- Obstétrique, Masson, Paris, **1999.**
17. P. Chérel, H. Berment, C. De Maulmont, R. Khayat, A. Langer**.** Gestion des microcalcifications dans le contexte de femmes à risque de cancer du sein, Imagerie de la Femme, **2010;** 20: 185-191.
18. OZDEMIR A; OZNUR I; VURAL G; ARASEVER T; KARABACKN; GOKCOR N ET AL. JL – 201 Scintigraphy, mammography and ultrasonography in the evaluation of palpable and non palpable breast lesions : a correclative study. Eur J Radiol, **1997;** 24: 145-540.
19. MARIE. HELENE DILHUYDY; BEATRICE BARREAU; CORINNE AENRIQUES; ANTOINE AURIL. Cancers infracliniques du sein: diagnostic et déductions stratégiques. Reproduction humaine et hormones, **1997**; X: 267-278.
20. TRISTANT H; LEFRANC JP; MASSOL J. Cancer infraclinique du sein. Dépistage et diagnostic. EMC. Gynécologie, **1999;** 865-A-15: 4.
21. J. Bokobsa(1), L. Levy(1), M. Suissa(1), H. Tristant(1), M. Benmussa(1 **Construction et adaptation française de la classification BI-RADSConstruction and french adaptation of the BI-RADS classification**
22. HARMIEN ZONDERLAND, Ultrasound 2013 updated version , radiology departmentof the academical medical centre in Amsterdam hospital in leiderdorp, the Netherlands
23. **D'Orsi CJ, Bassett LW, Berg WA**. Mammography. In: breast imaging reporting and data system (BI-RADS). 4th ed. Reston, Va: American college of radiology, 2003.