

ANALYSIS OF THE ATTITUDES OF WOMEN FROM RURAL AND URBAN AREAS TO NON-TUMOR AND TUMOR BREAST CHANGES

ANALIZA ODNOSA ŽENA SEOSKE I URBANE SREDINE PREMA NETUMORSKIM I TUMORSKIM PROMJENAMA U DOJCI

Predrag Lazić¹, Darko Lukić², Dusko Ivić³, Nenad Babić², Spomenka Paurević⁴

Summary

The prospective study, which ran from January 2011 to January 2015, included the respondents who were treated from various non-tumor breast changes and breast tumors. The respondents were divided into 2 groups. First one, group A (280 respondents), consisted of the respondents who are residing in the rural area. Second one, group B (343 respondents), consisted of the respondents who have residence in urban area.

The aim is to analyze the attitude to non-tumor diseases and breast tumors by women of rural and urban environment.

The observed parameters are the reasons for coming to the breast examination: palpable formation in the breast, regular examination, breast pain, breast swelling and other changes. Parameters to compare the results were time intervals from the detection of palpable formations to examination.

There was no statistically significant difference in inflammatory diseases of the breast, except in the case of breast abscess formation which is more common in the group A. A statistically significant difference among the groups was not found in the incidence of benign and / or malignant tumors of the breast, neither.

It turned out that immediately after tumor detection by palpation, 4 patients in group A went to examination the next day.

Patients in group B went 3 times more often to examination after a few days of the initial palpation of the tumor than patients in group A. There are much more women in group A who after only one year from the moment of palpable formation came to examination.

The number of women, who have come to examination after a few months and / or years, is almost identical.

Patients in group A have less responsible attitude towards non-tumor diseases and breast tumors, so it is possible for this group to be in higher degree of risk of late diagnosis of malignant tumors.

Keywords: breast, inflammatory diseases, tumors.

Sažetak

Prospektivnom studijom, koja je trajala od januara 2011. godine do januara 2015. godine, obuhvaćene su pacijentkinje koje su liječene od različitih netumorskih promjena dojke i tumora dojke. Pacijentkinje su podijeljene u 2 grupe. Prvu, grupu A (280 pacijentkinja), činile su pacijentkinje koje su nastanjene u seoskoj sredini. Drugu, grupu B (343 pacijentkinje), činile su pacijentkinje koje su nastanjene u gradskoj sredini.

Cilj rada je analiza odnosa prema netumorskim oboljenjima i tumorima dojke od strane žena seoske i urbane sredine.

Posmatrani parametri su razlozi dolaska na pregled dojki: palpabilna formacija u dojci, redovan pregled, bol u dojci, otok dojke i druge promjene. Parametri za poređenje rezultata bili su vremenski intervali od otkrivanja palpabilne formacije do dolaska na pregled.

Nije pronađena statistički značajna razlika u pogledu upalnih oboljenja dojke osim u slučaju apscesa dojki koji je češći u grupi A. Statistički značajna razlika među ispitivanim grupama nije pronađena ni u pogledu incidence benignih i/ili malignih tumora dojke.

Pokazalo se da su odmah po otkrivanju tumora palpacijom, na pregled sutradan otišle samo 4 pacijentkinje grupe A. Pacijentkinje grupe B su 3 puta češće od pacijentkinja grupe A na pregled otišle nakon nekoliko dana od inicijalne palpacije tumora.

U grupi A je znatno više pacijentkinja koje su se tek nakon jedne godine od momenta palpatorne formacije pojavile na pregledu. Broj pacijentkinja koje su se na pregled javile nakon nekoliko mjeseci i/ili godina, je približno identičan.

Odnos prema netumorskim oboljenjima i tumorima dojki pacijentkinja grupe A je više ležeran (manje odgovoran), pa je za tu grupu moguć viši stepen rizika od kasne dijagnoze malignih tumora.

Glavne reči: dojka, upalna oboljenja, tumori.

INTRODUCTION

Inflammatory breast diseases are important from the standpoint of the global picture of the breast pathology and possible developments in the breast that are important from a differential diagnostic aspect. Any changes

in the breast are not tumors, especially malignant, but that does not mean that all the changes within the clinical image should not be very skillfully and seriously analyzed. Good breast tumor treatment strategy has to

take into account any possible non-tumor changes in the breast, and their repercussions on the course of the treatment of cancer.

Benign changes in the breast are more common than malignant and they represent about 65- 70% of cases of breast surgery. Of all the benign dysplasia, in about 50% of the cases it is fibrocystic disease of the breast, and in 15% of cases those are fibroadenomas, lipomas, intraductal papillomas, and other benign tumors and non-tumor and tumor like formations. About 35% of breast tumors are cancers (1).

The importance of early diagnosis of breast cancer is invaluable. Because the breast can easily and conveniently be viewed by palpation, ultrasound, mammography etc. it is logical to assume that the early diagnosis will in time and education become dominant. However, despite the progress in learning about breast cancer it often happens that the diagnosis is delayed.

Improvements in diagnostic methods, additional efforts in the clinical, mammographic and cytological verification of small, as well as non-palpable lesions in the breast, contribute to the implementation of non-radical, limited surgery.

Accordingly, the UICC (Union for International Cancer Control) receives and inaugurates an attitude that breast cancers classified as T1, T2, No, N1, Mo, can be treated by quadrantectomy with axillary dissection and the use of postoperative radiation therapy (2,3,4).

Reports of some experts showed that non-radical surgical approach with the conservation of a large part of the breast, psychologically and emotionally provides better patient status and better quality of life (5,6,7).

Today, most experts treat breast cancer with small diameter and low histological grade with wide tumorectomy with axillary dissection combined with postoperative radiation therapy and chemotherapy.

THE AIM

The aim is to analyze the attitude to non-tumor diseases and breast tumors by women of rural and urban environment.

MATERIAL AND METHODS

The prospective study, which ran from January 2011 to January 2015, included the respondents who are treated for different non-tumor breast changes and breast tumors. The respondents were divided into 2 groups. First group, the group A (280 respondents), was made

up of respondents who are residing in the rural area. Second one, the group B (343 respondents), consisted of respondents who have residence in urban area. The observed parameters are the reasons for coming to the breast examination: palpable formation in the breast, regular examination, breast pain, breast swelling and other changes (Table 1). Parameters for the comparison of results were relevant findings and time intervals from the detection of palpable formations to examination.

Table 1. Reasons for visiting a doctor

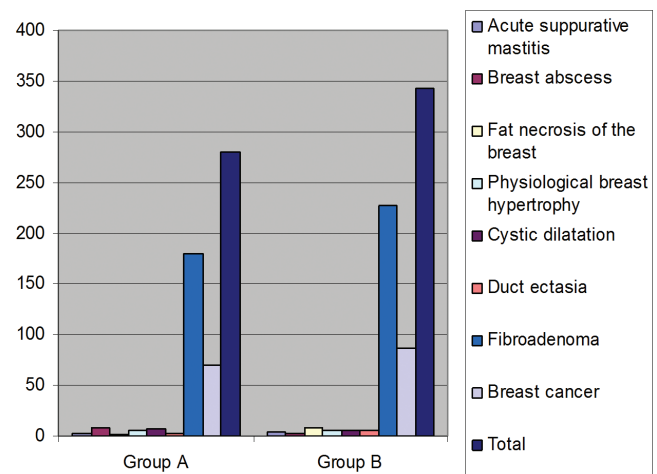
Reasons for visiting a doctor	Group A	Group B
Palpable breast formation	261 (93,2 %)	323(94,1 %)
Breast pain	12(4,3 %)	9(2,6 %)
Breast swelling	2(0,7 %)	3(0,9 %)
Nipple secretion	3(1,1 %)	4(1,2 %)
Other changes	2(0,7%)	4(1,2 %)
Total	280(100 %)	343(100 %)

RESULTS

The research results are presented in Table 2, Graph 1 and Table 3 with Graph 2. The parameters for the comparison of the results were relevant findings and time intervals from the detection of palpable formations to the examination.

Table 2. Relevant findings

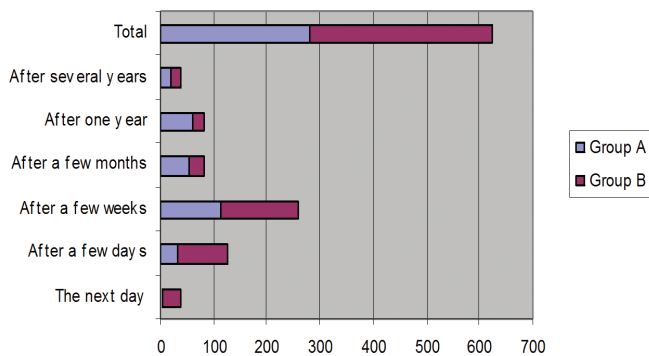
Relevant findings	Group A	Group B
Acute suppurative mastitis	3 (1,1 %)	4(1,2 %)
Breast abscess	9(3,2 %)	3(0,8 %)
Fat necrosis of the breast	2(0,7 %)	8(2,3 %)
Physiological breast hypertrophy	6(2,2 %)	5(1,5 %)
Cystic dilatation	7(2,5%)	5(1,5 %)
Duct ectasia	3(1,1 %)	5(1,5 %)
Fibroadenoma	180(64,2 %)	227(66,2 %)
Breast cancer	70(25 %)	86(25 %)
Total	280(%)	343(%)



Graph 1. Relevant findings

Table 3. Time intervals from the detection of palpable formation to the examination

Time intervals from the detection of palpable formation to the examination	Group A	Group B
The next day	4(1,4%)	33(9,6%)
After a few days	31(11,1%)	95(27,7%)
After a few weeks	112(40%)	145(42,3%)
After a few months	53(18,9%)	30(8,8%)
After one year	61(21,8%)	20(5,8%)
After several years	19(6,8%)	20(5,8%)
Total	280(%)	343(%)

**Graph 2.** Time intervals from the detection of palpable formation to the examination

Statistical analysis between the observed groups A and B shows:

- in terms of characteristics, *relevant findings – an abscess of the breast*, there is a statistically significant difference ($p < 0.01$, 99% confidence), $Z = 2.533281$
- in terms of features, *the relevant determination – fat necrosis of the breast*, there is a statistically significant difference ($p < 0.01$, 99% confidence), $Z = 2.143195$
- in terms of features, *time intervals from the detection of palpable formations to examination – the very next day*, there is a statistically significant difference ($p < 0.01$, 99% confidence), $Z = 2.938023$
- in terms of features, *time intervals from the detection of palpable formations to examination – after a few days*, there is a statistically significant difference ($p < 0.01$, 99% confidence), $Z = 2.342107$
- in terms of features, *time intervals from the detection of palpable formations to examination – after one year*, there is a statistically significant difference ($p < 0.01$, 99% confidence), $Z = 2.075328$

DISCUSSION

The analysis included 623 women who were treated for non-tumor and tumor breast diseases. The youngest respondent was 18 years old and the oldest was 85. The non-tumor and inflammatory breast changes were dominant in the population of women under 36. At the same time, it was shown that breast cancer is most common in the age group of 51-70. These data are consistent with the data from the literature.

Acute suppurative mastitis is rare inflammatory breast disease (in about 1% of cases), usually during the first three months after birth. The most common causes of acute mastitis are *Staphylococcus aureus* and *Streptococcus*. In addition to these bacteria mastitis is caused by pneumococcus and pseudomonas (8). Our research showed almost identical number of patients with acute mastitis, in the global percentage that is consistent with the data from the literature.

Breast abscess occurs as a result of untreated or inadequately treated acute mastitis, then as a result of haematogenous dissemination of bacteria from a remote suppurative principal seat of the disease and as a consequence of squamous metaplasia of milk ducts in the nipple. If it becomes chronic, suppurative episodes and sanation alternate, with fibrous scarring and many fistula (8,9).

Patients in group A had 3 times more breast abscesses than patients in group B. Possible reasons for this are attempts to treat the acute mastitis using alternative medicine that patients in group A used. Fat necrosis of the breast is the focal aseptic inflammation. In over 50% of cases the fat necrosis is the consequence of accidents and physical trauma in traffic, sports, workplace, etc. After fat necrosis, limited fibrosis or collagen capsule occurs, which restricts the affected zone which may cause sedimentation and calcification that can look like tumor. Cutaneous retraction and tumefaction are found by palpation (8).

Patients in group B had necrosis of fat tissue more often, which proved to be statistically significant. All of these respondents reported some of breast injuries.

Women in reproductive period often have nodular texture in their breast. That is a distinctive sign of proliferative changes associated with a variation of the normal menstrual cycle in hormonal level.

Spectrum of lobular proliferation and its accompanying nodulation ranges from barely noticeable fullness to a clear nodular mass, which indicates „the presence of pathological process“. Almost 50% of women who visit a clinician, with complaints that indicate breast, have only accentuated the degree of „physiological nodulation“ (1). The physiological hypertrophy of the breasts of our respondents is found in approximately the same number in both groups.

Cystic dilatation of the ductus usually is a relatively oscillating tumor, which by puncture and aspiration gives a liquid content and dries after that procedure. It is believed that the cysts in the breast are the result of progesterone effect or estrogen stimulation of the primary tissue. Cysts can be increased by obstructing the channel due to scar duct ectasia, or intraductal hyperplasia (1).

The term „fibrocystic disease“ is frequently and commonly used and refers to this condition, as well. Unfortunately, the term is also used as a synonym for covering the whole spectra of histologically different states. Some experts suggest the abandonment of the term due to the lack of clinical and pathological specificity (1). Fibrocystic breast disease among our respondents is found in approximately the same number in both groups.

Duct ectasia is a progressive dilatation of the ductal system of the breast. A tumor like formation like this can be found in subareolar region. The change is also known as the periductal mastitis, mastitis plasmacellularis and comedo mastitis.

Retro/para-areolar irregular tumefaction or oval tumor, which is very sensitive and painful on palpation, dominates in clinical picture. Often (in 30-40% of cases) there is a retraction of nipples that spontaneously or on the pressure release the secretion in about 20% of cases. The mass that is secreted is as thick as a paste, yellowish or serous and ichorous. There may be axillary lymphadenopathy (8,10).

Among our respondents duct ectasia is more often found in group B, but without statistically significant differences.

Fibroadenoma is a benign tumor which is characterized by proliferation of the epithelium and connective tissue. Fibroadenomas may be single or multiple. They can grow extremely quickly and achieve large scale (10-15 cm) when called giant fibroadenoma. Larger proportions are particularly reached in the younger age girls, especially when it comes to estrogen exacerbation.

Morphologically, fibroadenomas are initially found as discrete, and then clearly encapsulated nodes. On palpation they are clearly palpable, firm, elastic, freely moving, round, diameter of 1- 4cm. When excised, they are found as hard tissue, gray-white color, impregnated with tiny pinkish fiber in the form of very discrete partitions (1).

Fibroadenomas are proliferations of a stromal tissue, generally are associated with excessive stimulation of estrogen due to anovulatory menstrual cycle. Glandular elements are compressed by stromal proliferation (1). Among our respondents fibroadenomas are more often found in Group B but without statistically significant differences.

Most women with breast carcinoma (75-80%) come to examination for indicated palpable tumor. Characteristic findings of breast cancer are generally described as a palpable tumor of rigid consistency, mainly fixed in the breast with usually unclear boundaries (11).

According to experimental data, the average time of doubling the volume of breast malignancy is 100 days. So it follows that about 6-7 years pass until tumor reaches the volume when it is palpable. Often, in the case of some tumors, this period is much longer. The earliest possible detection of breast tumor is the only way to cure and do the non-radical breast surgery (12,13,14,15).

In our respondents breast carcinoma was detected in 156 cases. In 68 (43,5%) cases carcinoma is detected in diameter of up to 2 cm. Our research has shown that participants in group A had a longer interval from the detection of palpable formation in the breast, until the examination. Immediately after discovering the tumor, only 3 patients in group A came to examination. At the same time, after a few days of the initial palpation of the tumor patients in group B went to examination 3 times more often than women in group A. There are significantly more women in group B who only after one year from the moment of palpable formation came to examination.

Number of patients in group A and group B, who came to examination after a few months and / or years is about the same.

CONCLUSION

No statistically significant difference was found in inflammatory diseases of the breast, except in the case of breast abscess formation which is more common in the group A.

A statistically significant difference among the groups about the incidence of benign and / or malignant tumors of the breast was not found, neither. It turned out that immediately after tumor detection by palpation, only 4 patients in group A went to examination the next day.

After a few days of the initial palpation of the tumor, patients in group B went to examination 3 times more often than women in group A. There are significantly more women in group A who only after one year from the moment palpable formation came to examination.

The number of women, who have come to examination after a few months and / or years, is almost identical.

Patients in group A have less responsible attitude towards non-tumor diseases and breast tumors, so it is possible for this group to be in a higher degree of risk of late diagnosis of malignant tumors.

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