PAIN AND DISCOMFORT DURING MAMMOGRAPHY

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Resume: Of all the methods to image the breast, Mammography provides the most information at a low cost. Other modalities have been investigated for their potential in Screening, but none can approach the sensitivity and specificity of Mammography. This is the most important method for early detection of breast cancer, however, patients frequently complain of discomfort and pain.

Objective: The aim of this study was to explore the relationship between Mammography and Pain/Discomfort experienced by asymptomatic women undergoing mammography for various clinical presentations.

Material and Methods: One hundred patients presenting for Mammography were included in this study. The patients were asymptomatic women recruited from Onkoloski Institut, Ljubljana. After the image procedure, patients filled a questionnaire with a linear analogical scale to quantified Pain/Discomfort.

Results: Conclusion: Pain and Discomfort, although not related to the intention to undergo future Mammography, had a relatively high incidence. All of the patients related about the important responsibility of the Radiographer during the exam.

INTRODUCTION

Breast imaging involves screening studies as well as diagnostic studies. The difference between the two studies is that the screening study is geared toward early detection of breast cancers. It is done on a routine basis in an asymptomatic female. The diagnostic study is specialized, tailored study designed to evaluate a specific breast complain, or to perform further workup or monitor an uncertain Mammographic abnormality. The diagnosis examination is also performed in patients with implants and in patients with history of breast cancer treated conservatively. The Mammogram consists of two standard views: CranioCaudal (CC) and the MedioLateral Oblique (MLO). Special Mammographic views are including the True Lateral View (90°), Magnification Views, Focal Compression and Axillary Views.¹

Regular Mammography can decrease mortality by approximately 26% in women aged 50-74 years; and Mammography significantly decrease mortality (in 18%) in women aged 40-49 years.²

Mammography is the most effective imaging technique for the early diagnosis of breast cancer. For that, a certain amount of compression is needed during mammography in order to improve image quality and reduce absorbed radiation dose to the breast.³

Mammography requires high-contrast and high-spatial resolution for optimal imaging. Therefore, standard radiographic equipment is not satisfactory. Mammography is performed on special equipment dedicated to achieving high-contrast and high-spatial resolution.⁴ Mammographic units are equipped with compression paddles that are designed to squeeze the breast against the film holder. Good compression of the breast is essential to high-quality mammographic technique, because the compression spreads overlapping breast structures so that masses can be distinguished from summation shadows. Good breast compression is a very important factor in reducing scattered radiation in screen-film mammography. In addiction to contributing to a reduction in scattered radiation, compression can be provide several other technical improvements in imaging quality factors.⁵ These improvements include: a) immobilization of the breast with reduces blurring caused by motion; b) location of structures in the breast close to the image detector, witch reduces geometric blurring; c) production of a more uniformly thick breast, witch, in turn, results in more even penetration by x-radiation and less difference in radiographic density in the area between the chest, wall and nipple and d) reduction of radiation dose, and added benefit in the spreading of breast tissue, enabling suspicious lesions to be more easily identified.

The compression, is possible to achieved by use a plastic paddle, witch presses the breast against the film cassette. The compression causes pain in some women and the reported incidence of pain varies. Hence the same degree of compression may cause little or no pain to some women and severe pain to others to the point of deterring them
from wanting to undergo mammography. For these, the importance of proper compression should be explained to the woman, before the breast is compressed. Most women find compression uncomfortable and for a few it might even be painful. The radiographer must emphasise that compression only lasts a few seconds but that is necessary in order to obtain good images and does not harm the breast. The amount of compression women can tolerate varies. If a woman has extremely sensitive breast it may be recommended that the examination is postponed and a suitable appointment can be made, when the breasts are less sensitive. The breast should be properly compressed, but no more than necessary to achieve a good image quality. More compression will only cause the woman pain.

It has been shown that women will tolerate the compression better if they have a full understanding of the need. Experience has shown that compression is better accepted if the woman can feel the control and indicate when the pressure is starting to became unpleasant. During the compression the radiographer should constantly observe the woman, and the radiographer must never assume that the woman is putting on an act. Every woman is different and experiences mammography in a different way. Putting the woman and her feelings at the centre of the examination is conducive to a satisfactory experience.

And, for that, the present study was undertaken to evaluate the rates and correlates of Pain/Discomfort during Mammography, as well, to evaluate the incidence and severity of Pain in symptomatic and asymptomatic women undergoing mammography and to explore any possible association of Pain during Mammography symptoms, clinical and radiological diagnosis, and all other factors.

MATERIAL AND METHODS:

This study was approved by the Escola Superior de Tecnologia da Saúde de Lisboa, Portugal, By the Onkološki Institut Ljubljana, Slovenia. Informed consent was obtained from all the subjects. One hundred women referred for Mammography were recruited for the study. Exclusion criteria were mental retardation, disorientation and serious physical illness as these could affect the ability to understand and complete the questionnaire.

In the questionnaire, the objectives were linked to: a) try to understand how the pain is different in Mammography and how the idea and created preconcert in women about the pain, may influence their perception of pain during Mammography, and Technical Radiology can help minimize the pain, b) try to understand if the administration of drugs before the Mammogram, influence and change the perception of pain experienced by women; c) What is the difference in scale of pain among women asymptomatic and symptomatic.

The type of questionnaire used in this research was "Brief Pain Inventory”, which is usually used to measure levels of pain, created by Charles S. Cleveland. The same type of questionnaire has been changed so as to make it more personal, for that some points were added, such as age, education, number of times that the woman made mammography, if the woman is planning to repeat the exam next year and if the woman have kids.

For data collection by questionnaire were established some rules, including:

a) Women respond only in the end, to not influenced the results;
b) Were recorded: date, place;
c) When a question is dubious should not be explained to the woman with examples, to not influence their response;
d) For each issue only one response is possible;
e) If the woman does not want to answer the questionnaire, this may not be delivered to another woman, it will be used to account those who did not want to take part of the study;
f) We must show to women that answer the questionnaire is important because will collect new data and information about the topic that is being studied;
g) The time spent with the patient in the examination, should be the same, even in the absence questionnaire; h) will be used the same compressive force that we use in a normal day of exams.

Compression was achieved by use of a plastic paddle which pressed the breasts against the film cassette. Compression was considered sufficient when the skin of the breast became taut. The compression used in all exams was biphasic compression. Mammography was conducted by female and male radiographers who have experience of performing, approximately 5 months to 9 years. Mammograms were performed in Selenia Mammographic unit. Two standard views (CC and MLO) of each breast were routinely obtained.

Patients were asked to complete a brief questionnaire regarding pain information pain information shortly after the Mammogram.
Our previously validated pain measure was used, the Visual Analog Scale (VAS). This scale measure used in this study show five types of faces, that represent the level of pain, who starts with 0 (zero) “Level of Pain” – Smile – and ends with “Worst Pain” – Crying Face. It was required to mark the spot face corresponding to the intensity of pain they experienced. All the subjects provide a scale on the VAS as a measure of the intensity of pain experienced.

About the demographic information: Age; Educational level were obtained from a self-repost questionnaire. The independent variables who were included in this study: a) Patient’s Age, If the woman have already made Mammography before; b) If the woman is taking Hormonal Therapy (THS); c) Is she prepared to undergoing Mammography again; d) open questions about self opinion about the procedure and e) if the woman could change something, that should be changed.

RESULTS:
All women who met this study inclusion criteria during the recruitment phase of the study were identify. A total of 100 women were identified as eligible and were asked to participate in this study and filled the questionnaire. Of the 100 women approached, 91 enrolled in the study. Regarding the demographic and selected health-related information, all the women who were included in the study were White, Non-Latina ethnicity, and 13% had the Primary School, 52% High-School and 26% had University Educational Level. From all the women who are included in this study, 56% of the sample had been told that they had breast disease and had been operated, and for 2% of those women it was the first time in Mammography, 40% have made 1 to 4 previous Mammographic examinations, 18% between 5 to 7 Mammograms, 17% had made 8 to 10 examinations and 14% had made, until that moment, more than 11 Mammographic examinations. This study shows that 66% of women in the sample reported none to moderate physical pain/discomfort when the mammographic equipment was pressing against the breasts. This study shows too, that 89% of the those women reported that they liked the way how it was performed the procedure and they had been told that they will return to the next year for a mammographic examination. When questioned regarding their opinion about the care received during the procedure, the majority of the women reported being very satisfied (89%) and only 2% didn’t like the procedure. Most were very satisfied with the performing of the radiographer during the Mammographic examination.

DISCUSSION:
This study on Pain/Discomfort associated with Mammography demonstrates the use of standardized measures of pain such as VAS. The VAS scoring system is a useful, valid and easy tool for assessment of pain. It enables patients with varying levels of education to provide an indication of the intensity of pain/discomfort. A significant association was found between educational level and discomfort rating. This finding supports the notion that women with college level education are better able to verbalize and categorize the experience during the Mammographic examination. It’s possible to observed that women with higher school level had a higher VAS score than women with a with limited education. The present study extends research on pain and discomfort during Mammography by including symptomatic and asymptomatic women. Consistent with previous studies, extreme pain was rarely reported in this study as only 10% of the women in the sample found mammography to be painful. As would be expected, women in pre or during the menstruation (6%) reported more pain during Mammography. Given the occurrence of pain/discomfort during Mammography as observed in this and other studies and reports indicating that experience of pain might can detained some women from undergoing future mammography. This present study was helpful to understand that all the women who takes medication before the exam (3%), to not feel to many pain during the exam, had been reported that don’t help. It is possible to discover that all the asymptomatic women can tolerate easier the pain/discomfort during the Mammography. With the results of this study about pain/discomfort in Mammography is possible to observe that may help if the Radiographer could speak with the women before the Mammographic procedure to reduce patient discomfort.

CONCLUSION:
The pain is not only a result of compression, but a number of factors (social, psychological and intellectual). Radiographer should be nice with the patient, making it feel less afraid of cancer and other possible results of mammography, which will help women to feel less pain during the procedure. In the case of her own doubts, the Radiographer should be given all possible answers, which are also given at the time of marking of the examination. If a woman says that during the examination feel to much pain, the Radiographer must stop the compression. Thus, to avoid moments of great pain and discomfort, all women who are still in the process of menstruation should mark their mammography for the 1st phase of the menstrual cycle, which will reduce the degree of pain and improve the quality of examination.

The present study has shown that 10% of the patients experience pain during Mammography. Women with breasts pathologies and with inflammatory conditions and pre-existing pain are more likely to experience pain. Age and educational level were also important factors in reporting pain during Mammography. Further proper assessment of pain using validated measures is important for planning pain management in patients such as those undergoing Mammography.

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