Lidocaine utilisation in mammography exams

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Purpose

The mammography for breast study corresponds to a study of the soft tissues. Created in the 1920s, this technique has undergone many changes, not only in equipment used, as in the protocol followed in order to provide images with better quality and lower radiation dose to the patient (1).

Mammography is a technique with high expertise for the early detection of breast cancer, and may even reduce the likelihood of death from this cancer. However, the exam is associated with some discomfort and pain (2).

Several studies attempting to evaluate the factors associated with more discomfort and pain, so that they can be changed to allow a better acceptance of examination by some patients.

The various options considered for a more comfortable and tolerable examination for the patient, there is the pre-medication, as a topical application of lidocaine gel 4%, as well as oral medication. By administering of one or more pre-medication and placebos was investigated whether there was a decrease in pain and tenderness in patients that were expecting a high degree of discomfort (3). This study showed positive results in the reduction of pain and discomfort as increased satisfaction by the patient on the examination, and the most significant results occurred with the use of lidocaine gel (4).

Thus, it is important to realize if isolated lidocaine application leads to a reduction in pain during mammography, and whether this decrease is indeed possible to use lidocaine or may be associated with the use of a placebo.

It is also important to realize that the decrease in pain occurs similarly in all patients, regardless of the expected discomfort or number of mammograms performed.
Methods and materials

The target population for the present study corresponded to women who went to the place of study in order to perform the mammogram.

The acquired sample of 51 females who accepted the prerequisites and met the criteria. The ages of the women ranged between 24 and 81 years and the average corresponds to 46.04 years.

To measure the pain was used a pain scale and sociodemographic situations were evaluated by questionnaires, as an instruments of this study.

The scale of pain used in survey corresponds to the Faces Scale, in which the patient shows the level of pain experienced by electing one of the many faces that appear increasingly, from a level of "No Pain" to a "maximum pain" (4).

This pain scale allows to evaluate not only the pain experienced when performing subsequent tests, as well as the expected pain during the current exam, and the actually experienced pain.

On the other hand, the questionnaire allows to obtain demographic information about the patient, including age, educational background, occupation, marital status, age of menopause among others.

Informed consent, was provided to patients before the study beyond that guaranteed the anonymity of the information.

The mammography examinations were performed by the same radiology technician, and compression used was the necessary to obtain images of good diagnostic quality and standards and imaging criteria have been respected according to the American College of Radiology. GE Senographe Essential mammography equipment was used in all examinations.

The data processing and analysis was performed by using Statistical Package for Social Sciences software (SPSS). The Spearman correlation was selected to evaluate possible relationships between variables defined during the study. On the other hand, the means compare was used in the survey.
Results

The number of participants who underwent the test for the first time, in addition to representing a very low value of the sample, also demonstrated that the group provided disparate responses in which corresponded to the expected pain levels, which can result from a lack of information or wrong about the exam.

It was also demonstrated a greater relationship between pain reported in previous studies and the presence of previous mastalgia.

Regarding the pain of past experiences that showed weak correlation (-0.0369) and significance of 0.019. The correlation with the level of pain after the examination was also weak (-0.0281), associated with a significance of 0.046.

Since the use of the product showed a weak correlation with a pain difference between the previous and current studies (0.329) although it has significance (0.038), an average of each product and the difference values comparing was performed.

Through Table 1 it's noticeable that there is a higher average values of the lidocaine to the placebo values.

Table 1 - Average levels of pain difference under the influence of the product used in relapsing patients

<table>
<thead>
<tr>
<th>Product</th>
<th>Average</th>
<th>N</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placebo</td>
<td>0.14</td>
<td>21</td>
<td>0.727</td>
</tr>
<tr>
<td>Lidocaine</td>
<td>0.89</td>
<td>19</td>
<td>1.286</td>
</tr>
<tr>
<td>Total</td>
<td>0.5</td>
<td>40</td>
<td>1.086</td>
</tr>
</tbody>
</table>

The mean difference obtained in cases that placebo was used may become from two factors. On the one hand, the difference between the previous examinations and actual pain values may be negative, considering that the actual level of pain was higher, thus not showing any effect on the placement of placebo, on the other hand, may also have been smaller, in which case can be considered the influence of the placebo effect.

The results support the hypothesis that use of 4% lidocaine reduces the pain associated with compression in mammography, and it is therefore associated with its use greater acceptance of future tests for 72.5% of participants (Figure 1).
Fig. 1

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Conclusion

The analysis of this survey confirmed the advantage of lidocaine use in mammography, a reduction in pain levels recorded in a group of participants addressed by accident is evidenced by the results.

In addition to this conclusion can also be noted that there is an association between participants who reported breast tenderness and provided significant real pain levels and essentially that lidocaine application promotes greater acceptance of future exams through the use of the product.
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**Fig. 2:** Health School - University of Algarve

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**Fig. 3**

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References


