Mammography Role in Screening of Breast Cancer

Noor-ul-Ain Ali¹, Kinza Latif² and Komal Naseer³
¹Doctor in Civil Hospital Karachi, Pakistan.
Email i.d: nooralishk22@outlook.com
²Doctor in Allama Iqbal Memorial Teching Hospital, Sialkot, Pakistan.
Email i.d: kinzalatifaroogi1992@gmail.com
³Designation: Doctor in Bahawal Victoria Hospital Bahawalpur, Pakistan.
Email i.d: drkomal06@gmail.com

ABSTRACT

OBJECTIVE: This study was done to determine role of mammography in screening of breast cancer.

STUDY DURATION AND DESIGN: This study was done in a period of six months from July 2017 to December 2017.

PLACE OF STUDY: This study was done in radiology department of Bahawal Victoria Hospital Bahawalpur, Pakistan. A tertiary hospital located in the center of city.

PATIENTS AND METHODS: There were 935 houses selected from the city of Bahawalpur randomly within the radius of 10 kilometer. These all homes were visited and one female from each house was invited for mammography in Victoria Hospital Bahawalpur radiology department. Out of 935 houses 900 sent their females for the test and 35 refused for this. Total 900 women were undergone the procedure. Their data was documented such as age, number of children, family history of malignancy or breast cancer, education level and marital status etc. In which patients malignancy was suspected they were undergone FNAC to confirm the diagnosis. Which patients showed benign conditions they were referred to relevant specialty for the treatment. Informed Consent was taken from these ladies for including their data in the study. Age range of these patients was 35-55 years with mean age of 40.5 years. Results were calculated in the form of frequencies and numbers and expressed via tables and charts. Data was composed on Microsoft office version 2017.

RESULTS: There were 900 female which were undergone mammography. Out of them 710 had normal findings and, 82 showed fibrocystic changes, 10 females had fibroadenoma, 31 had palpable lymph nodes, in 4 cases dysplasia and ductal ectasia was found. Out of 900 females only 27 showed malignancy. In these 27 females FNAC was performed and sample was sent for histopathology to confirm malignancy. There were 110 females with age 35-40 years, 171 with 41-45 years, 114 with 46-50 years, 206 with 51-55 years and 109 females were having age of more than 55 years. It was seen that most of the females were with age 40-50 years. Mostly malignancy was common in those females which were having age above 45 years. In young age malignancy is uncommon. In these females fibrocystic changes were common. Some of them showed just lymph nodes enlargement and no other changes were found. Out of 27 cases with suspicion of malignancy on mammography 21 confirmed carcinoma breast on histopathology. Positive predictive value was 74%. When tumor is detected in initial stages it can be treated with chemotherapy or surgical removal via Mastectomy. In Initial stage it has good prognosis. Few cases show recurrence of breast cancer after surgical excision it may be due microscopic metastasis of tumor which is undetected previously. Breast cancer distal metastasis is to liver, lungs and bones commonly. When a patient with breast cancer complains of pain in back or other bones of body then metastasis should be suspected and bone scan should be done for any bone mets. CT chest and CT abdomen should be do view any mets in lungs or liver. Mets in lungs look like canon balls. In this study we determined role of mammography in the evaluation of breast cancer and also determined prevalence of breast cancer among the females of Bahawalpur city. Mostly females showed fibrocystic changes on mammography. Cancer was less likely among you g females with age less than 25 years but as age of female increases its incidence increases. Family history of any cancer increases its chances. Early menarche and late menopause are common risk factors of breast cancer. Other factors include increased age,

CONCLUSION: Mammography is a very useful screening test for breast cancer with significant high positive predictive value. It is cheap test and easily performed. This technique can be used on mass population to determine prevalence of breast cancer.

KEY WORDS: breast cancer, mammography, screening test

INTRODUCTION

All over the world breast cancer is very common among females. It is more prevalent among females of developing and underdeveloped countries. Morbidity and mortality associated with it is much high if patient presents in advanced stages. Its incidence has been increasing from many years in USA.¹ Presenting complaints in these patients are usually pain in breast, a lump in breast, difference of size of both breasts etc. In young patients ultrasound of breast is done and mammography is done in females more than 30-35 years age for screening the patients with breast cancer. Mammography is a screening test of choice. It can be applied on mass population. Its positive predictive value is significantly high. Which patients have suspicion of breast cancer on ultrasound or mammography they are undergone FNAC or incision biopsy of lump for histopathology to confirm the diagnosis. It is a slowly progressing tumor which involves lymph nodes of axilla, internal mammary nodes , Supraclavicular and infra clavicular lymph nodes.² Use of mammography has reduced morbidity and mortality associated with breast cancer to much extent as it can detect cancer in early stages.³,⁴,⁵ When tumor is detected in initial stages it can be treated with chemotherapy or surgical removal via Mastectomy. In Initial stage it has good prognosis. Few cases show recurrence of breast cancer after surgical excision it may be due microscopic metastasis of tumor which is undetected previously. Breast cancer distal metastasis is to liver, lungs and bones commonly. When a patient with breast cancer complains of pain in back or other bones of body then metastasis should be suspected and bone scan should be done for any bone mets. CT chest and CT abdomen should be do view any mets in lungs or liver. Mets in lungs look like canon balls. In this study we determined role of mammography in the evaluation of breast cancer and also determined prevalence of breast cancer among the females of Bahawalpur city. Mostly females showed fibrocystic changes on mammography. Cancer was less likely among you g females with age less than 25 years but as age of female increases its incidence increases. Family history of any cancer increases its chances. Early menarche and late menopause are common risk factors of breast cancer. Other factors include increased age,
nulliparous and repeated trauma of breast. Most of the patients with breast cancer were having age above 45 years. Avoiding breast feeding is also a risk factor of breast cancer. Fibrocystic changes of breast are common benign condition among females.

**PATIENTS AND METHODS**

This is a prospective study done in Bahawal Victoria Hospital Bahawalpur Radiology Department. Study sample was females of the City of Bahawalpur. Duration of study was six months. Each female of study sample was undergone mammography and results were documented. There were 935 houses selected from the city of Bahawalpur randomly within the radius of 10 kilometer. These all homes were visited and one female from each house was invited for mammography in Victoria Hospital Bahawalpur radiology department. Out of 935 houses 900 sent their females for the test and 35 refused for this. Total 900 women were undergone the procedure. Their data was documented such as age, number of children, family history of malignancy or breast cancer, education level and marital status etc. In which patients malignancy was suspected they were undergone FNAC to confirm the diagnosis. Which patients showed benign conditions they were referred to relevant specialty for the treatment. Data regarding breast lump, tenderness, skin reaction, discharge, nipple retraction, palpable axillary, mammary or supra and infra clavicular lymph nodes was documented for individual patients. Informed Consent was taken from these ladies for including their data in the study. Age range of these patients was 35-55 years with mean age of 40.5 years. Results were calculated in the form of frequencies and numbers and expressed via tables and charts. Data was composed on Microsoft office version 2017.

**RESULTS**

Many studies have been done on breast cancer and its screening techniques but very few studies have been done in Pakistan. Data regarding prevalence of breast cancer among females of Pakistan is lacking in the literature. Much work in this regard is needed. : There were 900 female which were undergone mammography. Out of them 710 had normal findings and, 82 showed fibrocystic changes, 10 females had fibroadenoma, 31 had palpable lymph nodes, in 4 cases dysplasia and ductal ectasia was found. Out of 900 females only 27 showed malignancy. In these 27 females FNAC was performed and sample was sent for histopathology to confirm malignancy. There were 110 females with age 35-40 years, 171 with 41-45 years, 114 with 46-50 years, 206 with 51-55 years and 109 females were having age of more than 55 years. It was seen that most of the females were with age 40-50 years. Mostly malignancy was common in those females which were having age above 45 years. In young age malignancy is uncommon. In these females fibrocystic changes were common. Some of them showed just lymph nodes enlargement and no other changes were found. Out of 27 cases with suspicion of malignancy on mammography 21 confirmed carcinoma breast on histopathology. Positive predictive value was 74%. Factors influencing prognosis of disease include immunity of the patient, stage and grade of disease. Education level of the patient also influence prognosis of the treatment as many people go to quakes for treatment or avoid coming to hospitals. Many illiterate people doen not take it serious to have a limp in breast and when disease becomes advanced they present in a miserable condition to the hospital when prognosis is very poor.
Breast cancer is second most common cancer worldwide among females. A study done in Sweden reported prevalence of breast cancer 0.67%. It is more prevalent among females of developing and underdeveloped countries. Morbidity and mortality associated with it is much high if patient presents in advanced stages. Its incidence has been increasing from many years in USA. Presenting complaints in these patients are usually pain in breast, lump in breast, difference of size of both breasts etc. In young patients ultrasound of breast is done and mammography is done in females more than 30-35 years age for screening the patients with breast cancer.

This is a prospective study done in Bahawal Victoria Hospital Bahawalpur Radiology Department. Study sample was females of the City of Bahawalpur. Duration of study was six months. All females of the study sample underwent mammography and results were documented. There were 935 houses selected from the city of Bahawalpur randomly within the radius of 10 kilometer. These all homes were visited and one female from each house was invited for mammography in Victoria Hospital Bahawalpur radiology department. Out of 935 houses 900 sent their females for the test and 35 refused for this. Total 900 women were undergone the procedure. Their data was documented such as age, number of children, family history of malignancy or breast cancer, education level and marital status etc. In which patients malignancy was suspected they were undergone FNAC to confirm the diagnosis. In these females fibrocystic changes were common. Some of them showed just lymph nodes enlargement and no other changes were found. Out of 27 cases with suspicion of malignancy on mammography 21 confirmed carcinoma breast on histopathology. Positive predictive value was 74%. Factors influencing prognosis of disease include immunity of the patient, stage and grade of disease. Education level of the patient also influence prognosis of the treatment as many people go to quakes for treatment or avoid coming to hospitals. Many illiterate people do not take it serious to have a limp in breast and when disease becomes advanced they present in a miserable condition to the hospital when prognosis is very poor. Data regarding breast lump, tenderness, skin reaction, discharge, nipple retraction, palpable axillary, mammary or supra and infra clavicular lymph nodes was documented for individual patients. Informed Consent was taken from these ladies for including their data in the study. Age range of these patients was 35-55 years with mean age of 40.5 years. Results were calculated in the form of frequencies and numbers and expressed via tables and charts. Data was composed on Microsoft office version 2017. Mammography is a screening test of choice. It can be applied on mass population. Its positive predictive value is significantly high. Which patients have suspicion of breast cancer on ultrasound or mammography they are undergone FNAC or incision biopsy of lump for histopathology to confirm the diagnosis. It is a slowly progressing tumor which involves lymph nodes of axilla, internal mammary nodes, SuprACLavicular and infra clavicular lymph nodes. Use of mammography has reduced morbidity and mortality associated with breast cancer to much extent as it can detect cancer in early stages. When tumor is detected in initial stages it can be treated with chemotherapy or surgical removal via Mastectomy. In Initial stage it has good prognosis. A study done in France concluded that Breast cancer in early stages can also be detected using mammography.

**Prevalence of breast cancer among Females of Bahawalpur City**

- Females having no malignancy
- Females with breast cancer

<table>
<thead>
<tr>
<th>Age of females (Years)</th>
<th>Females with normal breasts (n)</th>
<th>Females with benign conditions (n)</th>
<th>Females having breast cancer (n)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>35-40</td>
<td>110</td>
<td>31</td>
<td>1</td>
<td>142</td>
</tr>
<tr>
<td>41-45</td>
<td>171</td>
<td>45</td>
<td>4</td>
<td>220</td>
</tr>
<tr>
<td>46-50</td>
<td>114</td>
<td>25</td>
<td>2</td>
<td>141</td>
</tr>
<tr>
<td>51-55</td>
<td>206</td>
<td>29</td>
<td>5</td>
<td>240</td>
</tr>
<tr>
<td>Above 55</td>
<td>109</td>
<td>33</td>
<td>15</td>
<td>157</td>
</tr>
<tr>
<td>Total</td>
<td>710</td>
<td>163</td>
<td>27</td>
<td>900</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Breast cancer is second most common cancer among females. A study done in Sweden reported prevalence of breast cancer 0.67%. It is more prevalent among females of developing and underdeveloped countries. Morbidity and mortality associated with it is much high if patient presents in advanced stages. Its incidence has been increasing from many years in USA. Presenting complaints in these patients are usually pain in breast, lump in breast, difference of size of both breasts etc. In young patients ultrasound of breast is done and mammography is done in females more than 30-35 years age for screening the patients with breast cancer. This is a prospective study done in Bahawal Victoria Hospital Bahawalpur Radiology Department. Study sample was females of the City of Bahawalpur. Duration of study was six months. All females of the study sample were undergone mammography and results were documented. There were 935 women invited for mammography in Victoria Hospital Bahawalpur radiology department. Out of 935 houses 900 sent their females for the test and 35 refused for this. Total 900 women were undergone the procedure. Their data was documented such as age, number of children, family history of malignancy or breast cancer, education level and marital status etc. In which patients malignancy was suspected they were undergone FNAC to confirm the diagnosis. In these females fibrocystic changes were common. Some of them showed just lymph nodes enlargement and no other changes were found. Out of 27 cases with suspicion of malignancy on mammography 21 confirmed carcinoma breast on histopathology. Positive predictive value was 74%. Factors influencing prognosis of disease include immunity of the patient, stage and grade of disease. Education level of the patient also influence prognosis of the treatment as many people go to quakes for treatment or avoid coming to hospitals. Many illiterate people do not take it serious to have a limp in breast and when disease becomes advanced they present in a miserable condition to the hospital when prognosis is very poor. Data regarding breast lump, tenderness, skin reaction, discharge, nipple retraction, palpable axillary, mammary or supra and infra clavicular lymph nodes was documented for individual patients. Informed Consent was taken from these ladies for including their data in the study. Age range of these patients was 35-55 years with mean age of 40.5 years. Results were calculated in the form of frequencies and numbers and expressed via tables and charts. Data was composed on Microsoft office version 2017. Mammography is a screening test of choice. It can be applied on mass population. Its positive predictive value is significantly high. Which patients have suspicion of breast cancer on ultrasound or mammography they are undergone FNAC or incision biopsy of lump for histopathology to confirm the diagnosis. It is a slowly progressing tumor which involves lymph nodes of axilla, internal mammary nodes, Supraclavicular and infra clavicular lymph nodes. Use of mammography has reduced morbidity and mortality associated with breast cancer to much extent as it can detect cancer in early stages. When tumor is detected in initial stages it can be treated with chemotherapy or surgical removal via Mastectomy. In Initial stage it has good prognosis. A study done in France concluded that Breast cancer in early stages can also be detected using mammography.
CONCLUSION:
This study reported 3% prevalence of carcinoma breast among females of Bahawalpur city. Positive predictive value of Mammography was 74%. Mammography is a very useful screening test for breast cancer with significant high positive predictive value. It is cheap test and easily performed. This technique can be used on mass population to determine prevalence of breast cancer. Females should undergo screening for breast cancer at the early age of 25-30 years so that disease may be detected in initial stages with good prognosis.

REFERENCES