

Compliance of surgeons to the triple assessment protocol in Khyber Pukhtunkhwa, Pakistan

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Abstract:

Objective: To determine the frequency of breast cancer patients who are diagnosed on the basis of accession of biopsy of breast lump and the causes of why the triple assessment protocol is not being practiced in Khyber Pukhtunkhwa, one of the province of Pakistan.

Material and Methods: This cross-sectional study was conducted from May 2019 to April 2020 in Surgical B Unit of MTI, Khyber Teaching Hospital, Peshawar. The study comprised of 263 consecutive female patients between the ages of 20-80 years belonging to different regions of Khyber Pukhtunkhwa who presented to the surgical out-patient department (OPD) with the diagnosis of breast cancer. Relevant data was entered into a structured proforma and analyzed using SPSS 22.

Results: Mean age of the patients was 41.1 ± 15.4 years. A small portion of the population (20.9%, n=9) belonged to district Peshawar while the remaining (79.1%, n=34) belonged to cities outside Peshawar. A major portion of the population comprised of married women (79.1%) with a low literacy rate (62.8%). More patients (76.7%) consulted surgeons for initial checkup of breast lump yet, out of 263 patients, 43 (16.34%) were diagnosed with breast cancer after having a surgical biopsy (lumpectomy) without prior evaluation by triple assessment. In more than two-thirds of cases (69.8%), patients were not informed about triple assessment protocol by the doctor concerned and hence not followed.

Conclusion: Triple assessment is a mandatory tool in the diagnosis of breast cancer as it has a diagnostic accuracy of 99.9%. Surgeons in Pakistan must strictly adhere to this protocol while dealing with breast cancer patients.

Keywords: Breast cancer, triple assessment, breast cancer screening, ultrasound of breast, mammography.

Introduction:

Breast cancer is the second most common cancer in the world after lung cancer affecting a quarter of the world's female population.¹ It is estimated that more than 50% of women will have breast symptoms in their lifetime out of which 12% will end up with breast cancer.² In Pakistan, approximately 25% of all malignant tumors are of breast origin³ and one out of every nine women is known to be suffering from the disease.⁴ In 2010, the World Health Organization (WHO) reported breast cancer as the tenth major cause of death in our country causing ap-

proximately 16,000 deaths per year, and labeled Pakistan as having the highest rate of diagnosed cases of breast cancer in Asia.⁵

Breast disease encompasses a variety of complaints ranging from mastalgia (breast pain) to nipple discharge to lesions within the breast itself (cyst or lump) not to mention a considerable amount of psychological stress associated with these complaints.⁶ Of the various modalities for diagnosis, the triple assessment which is a combination of physical examination, radiological imaging (mammography and ultrasound) and pathological examination (Fine needle aspira-

Received

Date: 20th January, 2020

Accepted

Date: 14th April, 2021

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Table 1: Reasons for not performing triple assessment

S/No	Reason for not performing triple assessment	No of patients (%)
1	Patient was unaware of the details of the protocol and doctor who was consulted did not mention it to the patient either	31 (72.1)
2	Doctor advised triple assessment but patient wanted immediate surgery without any investigation of the breast lump, due to fear of the disease spreading.	4 (9.3)
3	According to the patient, doctor suggested surgery was more important and that investigations (ultrasound, mammography, FNAC) would waste a lot of time	5 (11.6)
4	Patient was unwilling for investigations (FNAC, Trucut biopsy) & surgery because of cultural barriers regardless of the fact that the doctor did explain the protocol & its pros and cons	3 (7.0)

tion cytology and trucut biopsy) is known to be 99% accurate in the diagnosis of breast cancer.⁷ After being introduced in 1975, the triple assessment or triple test rapidly gained popularity due to its feasibility, reliability and accuracy and altogether replaced open surgical biopsy. The idea was to provide a quick and less invasive test of diagnosis to females suspected of having cancer and efficiently guide towards an appropriate management plan.⁸

Despite the fact that triple assessment has been globally accepted as an effective diagnostic modality⁶⁻⁸ increasing populations of women in our set-up are diagnosed with breast cancer on lumpectomies with no prior evaluation by triple assessment. The aim of our study is to determine the frequency of such women and to explore the causes of lack of compliance among doctors of Khyber Pukhtunkhwa for practicing the triple assessment protocol.

Material and Methods:

After obtaining Ethical approval from the Institutional Review Board (IRB), this cross-sectional study was conducted over a period of 1 year from May 2019 to April 2020 in Surgical B unit, MTI, Khyber Teaching hospital, Peshawar. The study comprised of 263 consecutive female patients between the ages of 20-80 years belonging to different regions of Khyber Pukhtunkhwa who presented to the surgical out-patient department (OPD) with the diagnosis of breast cancer. Detailed history was taken from all the patients and relevant data including demographics was

entered in a structured proforma. Patient's confidentiality was maintained throughout the study. Data was analyzed using SPSS 22. Frequencies and percentages were calculated for categorical variables while mean and SD was calculated for continuous variables. Data was presented in the form of graphs and charts.

Results:

Out of 263 breast cancer patients, 43(16.34%) were diagnosed on lumpectomy without prior evaluation by triple assessment. The mean age of the patients was 41.1 ± 15.4 years. Of these 43 patients, majority (55.8%, n=24) belonged to the 20-40 year age group (Figure 1). A small portion of the population (20.9%, n=9) belonged to district Peshawar while the remaining (79.1%, n=34) belonged to cities outside Peshawar (Noshehra, Mardan, Swabi, Charsadda, Bajaur, DI Khan, Kohat, Dir, Bannu, Chitral, Swat, Malakand, Buner).

Majority of females (79.1%, n=34) were married. Literacy rate among the patients was low that is 37.2% (n=16) females were educated whereas 62.8% (n=27) were un-educated and most of the patients came from rural areas (62.8%, n=27). After feeling the sensation of lump in breast, 33(76.7%) patients consulted a surgeon for initial checkup, 9(20.9%) went to a local doctor (gynecologists and non-specialist) of their district and 1(2.3%) consulted a surgical technician/non doctor. Comparison between consultation and different age, education, residence and marital groups is shown in table 2.

In the 43/263 breast cancer cases in whom triple assessment protocol was not followed, a detailed review of documents available with patients on arrival and history revealed a few possible causes of why the triple assessment was not done (shown in table 1). The reasons were the same between different age groups and married/unmarried females ($p > 0.05$) but differed significantly between educated/uneducated females ($p = 0.02$) and urban/rural residence ($p = 0.03$) as shown in table 2.

Table 2: Basic characteristics and relations with LMR groups

Demographics	Age groups (years)			Education	Marital status		Residence		
	20-40	41-60	61-80	Un- educated	Married	Un- married	Rural	Urban	
Consultation:									
1 Surgical specialist	20	7	6	16	17	27	7	17	16
2 Non surgical doctor	4	5	0	0	9	5	2	9	0
3 Surgical assistant (non doctor)	0	1	0	0	1	2	0	1	0
Total (n)	24	13	6	16	27	34	9	27	16
P-Value		0.12			0.02		0.67		0.02
Reason for not performing triple assessment:									
1 Patient was unaware/doctor didn't mention it either	15	11	5	8	23	24	7	19	12
2 Patient wanted immediate surgery	3	1	0	1	3	4	0	3	1
3 Doctor suggested surgery was more important	3	1	1	4	1	4	1	5	0
4 Patient was unwilling for invasive investigations	3	0	0	3	0	2	1	0	3
Total (n)	24	13	6	16	27	34	9	27	16
P-Value		0.64			0.01		0.71		0.04

P-value <0.05 is taken as statistically significant

Discussion:

Breast cancer remains one of the major causes of female mortality all around the world with a rising incidence in younger age groups,⁹ as seen in our study. This is in contrast to previous data, in which the peak incidence of breast cancer was seen in women between 40-50 years of age.¹⁰ In advanced stages, the classical presentation of breast cancer is a spot diagnosis; however the same cannot be said about a breast lump which may easily deceive the operating surgeon. In this regard, triple assessment plays a major role by providing timely and accurate pre-operative diagnosis even in resource limited places such as rural areas of Khyber Pukhtunkhwa where females do not come for follow up and definitive therapy has to be planned in limited settings.¹¹ Even though awareness for breast cancer has increased in the past decade, our female population is still being diagnosed in stage 3 and 4 of the disease. Few reasons are poverty and cultural restrictions making it difficult for females to expose themselves even to doctors as well as a poor health care system and lack of necessary facilities.^{12,13}

Education is a well-known determinant of feminine attitude towards breast carcinoma awareness as shown by Naqvi et al., in 2018 who reported that Pakistani women from educated

backgrounds were more aware and informed regarding female health issues compared to uneducated people in the society.¹⁴ In our study, most of the patients (62.8%) were illiterate with no knowledge about the disease or its treatment. Furthermore, a larger population (62.8%) came from rural areas where unequal distribution of health care facilities, scarcity of female surgeons and strict cultural barriers¹³ leave no choice for females but to visit non-surgical specialists/gynecologists (20.9%) and even non doctors/surgical assistants/quacks (2.3%) for their complaints as seen in our study. Also as discussed previously, our study reported that social restrictions caused about 7% of females to refuse being examined by the doctor. All these may be contributing factors towards improper judgment on the part of the doctor concerned and lack of compliance when it came to following the triple assessment.

Our study reported that more females (76.7%) visited surgeons for initial checkup of the lump despite belonging to uneducated rural setups. Yet, triple assessment was not followed in 43/263(16.34%) cases. Majority patients (72.1%) reported they were unaware of the protocol and the doctor who was consulted did not mention it either. A few patients (11.6%) mentioned they were told by the doctor to go

for surgery instead of wasting time on investigations. This lack of compliance on the part of surgeons results in increased suffering of the patient both emotionally and physically. In this way the patient has to endure two surgeries, hence more anxiety and more trauma. Furthermore, open biopsy exposes the patient to early malignant dissemination and delay in definitive diagnosis and management.¹⁵ Triple assessment is known to be a simple, safe and cost effective method based upon which management of a breast lump can be started without need for open biopsy within a short time.^{1,7,11} The sooner the diagnosis is established the lesser is the patient's anxiety in case of a benign lump and more time duration available to the surgeon for patient counseling and treatment planning in case of a malignant lesion.¹⁶

In a developing country like Pakistan, where we are overburdened by lack of education and social hesitancy of patients in seeking medical care, a lot falls on the shoulders of doctors who should strictly practice protocols for the betterment of patients in all circumstances.

Conclusion:

Because of its proven diagnostic accuracy of 99.9%, surgeons in Pakistan must strictly adhere to the triple assessment protocol while dealing with breast cancer patients. In an era where breast cancer is taking away lives and uprooting families, lots of females would receive accurate and timely management if they are properly guided and managed according to defined protocols and tests. This will not only enhance survival but improve the quality of life as well.

Conflict of interest: none

Funding source: none

Role and contribution of authors:

Misbah Riaz, conception and design, acquisition of data, critical evaluation of intellectual

content & final approval.

Muhammad Adnan Khan, analysis & interpretation of data, drafting of article

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