

Benign and malignant breast disease presenting to Bhaktapur Cancer Hospital

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Abstract

Objective: In the absence of formal breast screening services in Nepal, patients must self present upon developing symptoms relating to the breast. Clinical examination and diagnostic tests are then used to differentiate benign and malignant conditions. Referral / presentation patterns are not well studied and this paper aims to investigate this.

Method: Here we present the clinico-pathological diagnoses of patients presenting to Bhaktapur Cancer Hospital with breast related complaints within a six month period, and report upon their subsequent management.

Results: 727 patients presented with breast related complaints, of whom 34 were diagnosed with breast cancer. These tended to present at late stage and their subsequent management is discussed.

Conclusion: As the incidence of breast cancer in Nepal is likely to be under-reported and more than likely rising, patient awareness campaigns are underway in order to facilitate the earlier diagnosis of malignant disease and thus beneficially influence treatment outcomes. To this end the need for the development of dedicated breast services is highlighted.

Breast Cancer is the second commonest malignancy worldwide (after lung cancer) accounting for 11% of malignant diagnoses and in excess of 1 million people¹. It is the leading cause of death from cancer in women, with an estimated annual mortality of over 400,000 women. What is more, the incidence is increasing, having doubled globally since 1975. Breast cancer appears more commonly in the developed world with risk factors associated with increased exposure to oestrogen, be they reproductive (early menarche, delayed family) or direct hormonal factors (obesity). In the absence of breast screening programmes that detect breast cancer at a preclinical stage, most breast cancers present with a palpable breast lump, skin changes or nipple inversion, or less commonly nipple discharge. Later in the natural history of the disease axillary lymphadenopathy may be present. Although biological factors invariably play a role in outcome, stage at presentation remains the most important prognostic indicator, with early stages having the expected better survival outcomes.

Differentiating breast cancer from the more common benign breast conditions (fibrocystic breast disease, fibroadenomas) is a task that requires access to clinical examination, radiology (mammogram or ultrasound) and pathology (cytology and histopathology)². With no screening service currently available in Nepal, patients with breast complaints must therefore self-present to various organizations and be managed accordingly.

Bhaktapur Cancer Hospital is a collaboration between HM Government, Nepal, Nepal Cancer Relief Society and Rotary International that sees 3000 new patients a year including self presentations and referrals from secondary care. It offers comprehensive cancer treatment using all 3 treatment modalities (surgery, chemotherapy, radiotherapy).

Here we present the diagnoses and subsequent management of patients presenting to Bhaktapur Cancer Hospital with breast related complaints within a six-month period.

Materials and Methods

New Patient Records were reviewed for patients registering from 2061 Mangsir to 2062 Baishak (inclusive) and those presenting with breast related complaints identified. From the case notes, patients were classified as to the benign or malignant nature of their primary diagnosis (using the radiological and pathological investigations performed), and then subclassified as to their specific clinico-pathological entity.

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For the cases of breast cancer they were grouped by stage and then investigated as to their pathological

features and treatment administered (surgery, chemotherapy, radiotherapy or endocrine therapy).

Fig. 1: The Staging of Breast Cancer [3,4]

TNM	AJCC
T0 – no tumour identified	Stage I - T1 N0 M0
Tis – carcinoma in-situ	
T1 – primary tumour <2 cm max diameter	
T2 – primary tumour 2-5 cm	
T3 – primary tumour > 5 cm	Stage IIA – T1 N1 M0, T2 N0 M0
T4 – tumour involves a) chest wall, b) skin c) both d) inflammatory	Stage IIB – T2 N1 M0, T3 N0 M0
N0 – no nodal metastasis	Stage IIIA – T1-2 N2 M0, T3 N1-2 M0
N1 – movable ipsilateral axillary lymph nodes	Stage IIIB – T4 N0-2 M0
N2 – fixed ipsilateral axillary lymph nodes	
N3 – ipsilateral a) infraclavicular, b) internal mammary, c) supraclavicular lymph nodes	
M0 – no distant metastasis	Stage IV – any T any N M1
M1 – distant metastasis present	

Results

In the six month period investigated 727 new patients presented to Bhaktapur Cancer Hospital with breast related complaints. Of these 693 (95.3%) were diagnosed with benign conditions, the majority with either fibroadenosis (349) or mastalgia, cause not identified (218). The remainder had evidence of infection (mastitis) or fibroadenoma, with 2 patients presenting with duct papilloma and 1 with a breast cyst (Table 1). In the same period 34 patients were diagnosed with breast cancer. Case notes were

available for detailed data retrieval in 27 of these (79.4%). Mean age at presentation was 49.4 (range 27 – 82 years). Regarding histopathology the majority were invasive ductal adenocarcinomas; grade information was not available and staining for oestrogen/progesterone receptors (ER/PR) was performed in only 9 (33.3%) with 4 of these positive for either (44.4%) and 5 negative for both (55.5%). Modal stage at presentation was Stage III (Figure 2). These features are summarized in table 2.

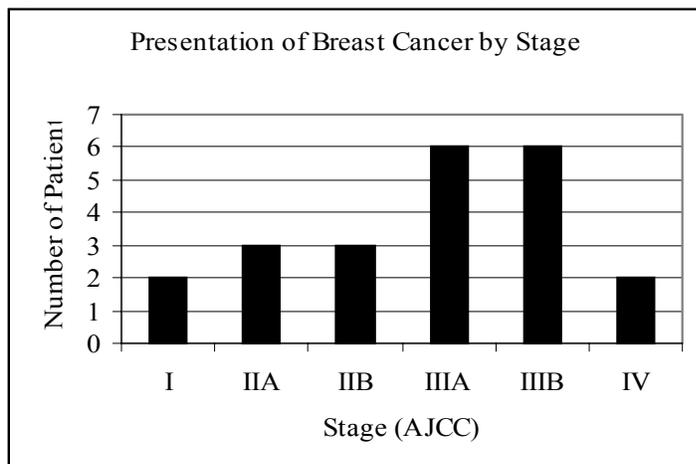
Table 1: Benign Breast Disease presenting to Bhaktapur Cancer Hospital in 6 months

Fibroadenosis	349 (50.4%)
Mastalgia	218 (31.5)
Mastitis	75 (10.8)
Fibroadenoma	48 (6.9)
Duct Papilloma	2 (0.3)
Breast Cyst	1 (0.1)
Total	693

Table 2: Features of Presenting Breast Cancer Cases, Bhaktapur Cancer Hospital

Age	Mean 49.4 Years (range 27-82)	
Histology	Reported – 23	
	Invasive Ductal Carcinoma	21 (91.3%)
	Medullary Carcinoma	1 (4.3%)
	Lobular Carcinoma	1 (4.3%)
ER/PR Status	Reported – 9	
	ER/PR positive	4 (44.4%)
	ER/PR negative	5 (55.5%)

Figure 2: Presentation of breast cancer by stage



Regarding treatment, the patients were broadly offered primary surgical excision where technically possible and appropriate, with adjuvant chemotherapy, radiotherapy and endocrine therapy determined by factors relating to the tumour (stage, hormonal status) and to the patient (fitness for treatment, patient wishes).

At this time 24 patients had undergone breast surgery with the majority (74.1%) experiencing a modified radical mastectomy. 1 patient declined surgery. 20 patients were treated with combination chemotherapy as part of their course (2 as a primary treatment

modality), the majority (17) with 6 cycles of 5-Fluoro Uracil, Adriamycin (Doxorubicin) and Cyclophosphamide (FAC). The remaining 3 received combination chemotherapy with Epirubicin replacing Adriamycin (FEC, again 6 cycles). 19 patients were prescribed radiotherapy (typically to the chest wall and lymph nodes using a 3 field technique with posterior axillary boost if required by patient dimensions), to a dose of 50Gy in 25# over 5 weeks. 15 patients (excluding those where the tumour was known to be ER/PR negative) were advised to take Tamoxifen (20mg daily) for 5 years.

Table 3: Treatments administered in 6 months of breast cancer cases

Surgery	Modified Radical Mastectomy	20 (74.1%)
	Simple Mastectomy	1 (3.7)
	Wide Local Excision	1 (3.7)
	Toilet Mastectomy	2 (7.4)
	Patient Declined	1 (3.7)
	Surgery Pending Chemotherapy Response	2 (7.4)
	Chemotherapy	Combination Chemotherapy
	FAC x 6	17 (85%)
	FEC x 6	3 (15%)
Radiotherapy		19 (70.4%)
Tamoxifen		15 (55.5%)

Fig. 3: Expected 5 year survival by stage [5].

Stage	5-year Breast Cancer Specific Survival Rate
0	100%
I	98%
IIA	88%
IIB	76%
IIIA	56%
IIIB	49%
IV	16%

Discussion

It is likely that the incidence of breast cancer in Nepal is currently under-reported and likely to increase in the future. However given the expected success of treatment of early stage disease (figure 3)⁵ with primary surgery augmented by adjuvant local treatment (radiotherapy) and systemic therapies (chemotherapy and/or hormonal therapy), public awareness campaigns that lead to the earlier presentation of disease are likely to improve outcomes. The Nepal Cancer Relief Society, along with other organizations, is currently active in this field.

National breast screening services have been adopted by a number of countries and have been associated with an improvement in breast cancer specific survival^{6,7}. However they have not been without controversy; statistical and cost-effective issues being cited⁸. Realistically it is not envisaged that such a programme will be implemented in Nepal in the short term.

Several points are striking from this data. Firstly the incidence of benign breast conditions greatly outweigh that of malignant disease as would be expected in any population. However, recent data has suggested that benign breast disease may be an independent risk factor for developing breast cancer and as such this cohort of patients need close attention⁹. Secondly in this population breast cancer appears to present with relatively advanced local stage. This then presents a major problem to the effective management of breast conditions. On the one hand it is essential that public awareness of breast cancer is increased, alongside a public acknowledgement of the success of treatment at early stages (figure 3). However along with public awareness will come an increased number of women presenting with benign breast disease requiring appropriate investigations, treatment and counselling.

Regarding treatment outcomes it is important that following on from cancer registry data, adequate follow-up information is collected in order to

continue the drive for reliable statistics that are the driver for improved standards of care.

Conclusion

This data demonstrates that both benign and malignant breast conditions are a significant cause of morbidity in this population. In the absence of primary care or screening programmes, there is a need for dedicated breast clinics in this setting associated with ongoing public awareness programmes.

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