

# Retrospective Survey of Breast Cancer

A Study (Situational Analysis) of the  
INCTR Breast Cancer Strategy Group  
March 24, 2009

# Participating Institutions

- Instituto Nacional des Enfermedades, (INEN) Lima, Peru
- Cancer Institute (CI), Chennai, India
- Jinnah Hospital (JH), Lahore, Pakistan
- National Cancer Institute (NCI), Cairo, Egypt

# Objectives

- To quantify the number of breast cancer patients evaluated by institutions, the number treated and the reasons patients were not treated
- To define the clinical history and presentation features in patients seen from 1993-2001
- To assess the frequency of risk factors known to be relevant in western populations

# Secondary Objectives

- To start the process of building an evidence base of data from low and middle income countries related to breast cancer
- To improve the infrastructure for data management

# Patient Record Surveys

INEN, Peru	5884
CI, India	2332
Jinnah Hospital, Pakistan	364
NCI, Cairo, Egypt	300
<i>Total</i>	8880

# Age at Diagnosis

	Median	Range
INEN, Peru	49	21 - 95
CI, India	47	16 - 86
JH, Pakistan	45	15 - 80
NCI, Egypt	48	21 - 80

# Social Characteristics

	INEN	CI	JH	NCI
Illiterate/primary education	38%	50%	45%	UNK
Low SES	29%	54%	42%	UNK
Rural	21%	39%	24%	47%
Not married	39%	24%	11%	2%
Housewives	69%	76%	91%	98%

# Patient History - 1

	INEN	CI	JH	NCI
Age at Menarche	13 yr	14 yr	13 yr	13 yr
% Had Children	85.4	99.8	89.7	100
Age at 1 <sup>st</sup> Birth	23 yr	21 yr	22 yr	UNK
% > One Child	84.8	87.2	93.0	91.7
% Breast Fed	97.3	96.2	87.8	UNK

## Patient History - 2

	INEN	CI	JH	NCI
Family Hx Breast Ca	9.3%	6.0%	12%	UNK
Used BCP	12%	1.6%	4%	1.2%
Used HRT	1.2%	5.4%	0	0

# Menopausal Status at Diagnosis

	INEN	CI	JH	NCI
Pre-menopausal	43.3	45.6	53.7	58.9
Post menopausal	56.7	54.4	46.3	41.1

# Diagnosis

	INEN	CI	JH	NCI
	(%)	(%)	(%)	(%)
Ductal	84.5	93.5	85.2	90.0
Lobular	7.8	1.0	7.9	4.3
Nipple	1.1	0.08	0.3	0
Carcinoma, NOS	4.4	0.8	5.5	0
Other, undiff	0.06	1.8	0.3	0.3
Other	2.0	2.8	0.8	5.3

# AJCC Stage (%)

	INEN	CI	JH	NCI
Stage 0/I	11.2	3.6	3.2	7.5
Stage IIA	29.5	15.9	20.4	27.1
Stage IIB	22.3	23.9	30.7	33.1
Stage IIIA	5.3	21.4	17.1	15.8
Stage IIIB	21.3	24.5	10.7	10.9
Stage IIIC	2.8	5.9	2.9	1.1
Stage IV	7.6	4.8	14.9	4.5

# Social Factors Associated with Stage

- Housewives in Peru and Egypt tended to have higher stages of disease while housewives from India and Pakistan did not.
- Rural patients from Peru, India and Egypt tended to have higher stages of disease than urban patients. This was not the case in Pakistan.
- Patients with higher education levels had a significant trend towards lower stage disease.
- This same trend held for patients of higher socioeconomic status.

# Estrogen Receptor Status

	INEN	CI	JH	NCI
Positive	36.5%	19.0%	15.1%	65.0%
Negative	30.2%	21.7%	29.4%	27.7%
UNK	33.3%	59.3%	55.5%	7.3%

# Estrogen Receptor Status

- Age at Diagnosis
  - There was no difference in age at diagnosis between ER pos versus ER neg patients at CI ( $p=0.52$ )
  - ER positive patients were older than ER negative patients at INEN, JH and NCI ( $p<0.0001$ ,  $p=0.048$  and  $p=0.011$ , respectively)
- Stage of Disease
  - There was no difference among stages in CI, JH, and NCI but there was a difference in INEN for Stage 0-I and IV patients (more ER pos)

# Institution Data

	Treated (%)	Not Treated (%)	Total
INEN	5752 (86.9%)	867 (13.1%)	6619
CI	2761 (53.6%)	2313 (44.9%)	5148

*Note: At Chennai, records were missing for 74 (1.4%) of patients – unknown if treated.*

# Reasons Patients Not Treated

	CI (%)	INEN (%)
Refused therapy	21.1 %	0.03%
Very advanced cancer	18.6%	0.68%
Advanced cancer/no money for Rx	0.0%	3.9%
No money for Rx	0.0%	1.9%
Other reasons	5.3%	6.6%

*Other reasons: Second opinions, previous treatment, second cancers.*

# Treatment Modalities

	INEN	CI	JH	NCI
Surgery	79.6	68.8	93.7	99.0
Chemotherapy	56.0	91.5	77.7	86.3
Radiation	23.6	92.0	44.8	73.7
Hormone therapy	41.0	84.7	27.5	59.3
Oophrectomy	1.5	18.2	0.3	0.3
Radiocastration	0.3	6.4	0	1.3

# Key Points About Treatment

- Modified radical mastectomy was the most common surgical procedure in all institutions.
- Very few patients had breast reconstructive surgery.
- The sequence of treatment approaches differed within and between institutions.

# Relapse/Recurrence

	INEN	CI	JH	NCI
YES	33.4%	35.8%	36.5%	25.0%
NO	50.9%	64.0%	36.3%	75.0%
UNK	15.7%	0.8%	27.2%	0

*NB. Variable follow up*

# Relapse/Recurrence

	INEN	CI	JH	NCI
Local	17.5%	8.5%	22.5%	10.7%
Regional	12.9%	2.2%	8.3%	9.3%
Local/Regional	0.8%	3.5%	2.2%	0
Distant only	59.1%	68.7%	54.1%	56.0%
Distant + other sites	3.1%	9.7%	11.3%	16.0%
Unknown	6.8%	7.4%	1.5%	8.0%

# Relapse/Recurrence – Association with Stage

- Patients who relapsed or who had recurrent disease had higher stages of disease.
- This was statistically significant for all institutions.
  - For CI and INEN,  $p < 0.0001$
  - For JH,  $p = 0.050$
  - For NCI,  $p = 0.0008$

# Status at Time of Data Retrieval

	INEN	CI	JH	NCI
Alive	27.8%	47.4%	25.3%	45.3%
Dead	17.9%	39.1%	16.2%	0
LFU	54.3%	13.5%	58.5%	54.7%

*NB. Many LFU patients were followed for > 5 years.*

# Survival

- The estimated 5 year survival percentages are:
  - 78% at INEN (Peru)
  - 64% at CI (India)
  - 61% at JH (Pakistan)
- These differences are highly significant
- The data from NCI was not included in the estimates of survival because there were no deaths to analyze

# 5 Year Survival by Stage

	INEN	CI
Stage 0-I	96%	85%
Stage IIA	92%	80%
Stage IIB	82%	79%
Stage IIIA	74%	62%
Stage IIIB	54%	49%
Stage IIIC	23%	24%
Stage IV	24%	9%

# Summary - 1

- These results should be considered preliminary.
- Certain data may not be reliable due to cultural differences
  - Smoking
  - Alcohol use
  - Number of live births
  - Age at first birth
  - Family history of breast cancer
- The majority of patient and social history data was missing from one center.

# Summary - 2

- Survival data cannot be considered to be reliable
  - Greater than 54% to 59% of patients at 3 institutions were “lost to follow up” suggesting that patient outcomes were unknown after treatment was completed. Results may appear “better” than they actually are.
  - Lack of uniformity of treatment evidenced in all 4 centers

# Summary - 3

- Lower education levels and lower socioeconomic status were associated with higher stages of disease.
- “Under-staging” may have occurred because not all necessary imaging studies could be performed in all patients.
- Certain risk factors for western populations do not appear to be relevant, although more analysis is required.

# Conclusions

- A situational analysis of this kind serves to highlight areas where improvements can be made and can generate hypotheses that can be explored through future clinical studies.
- Future studies would require improved infrastructure for data collection.

# Questions Raised

- How can public awareness campaigns about breast cancer be directed towards women who are less educated and poorer?
- Should a study be done to learn more about the reasons why women refuse treatment so that public awareness campaigns are culturally relevant?
- Should a longitudinal study be done to learn more about treatment approaches?

# Thank You

- INEN, Lima, Peru
  - **Dr Luis Casanova**
  - **Dr Gabriela Calderon**
- CI, Chennai, India
  - **Dr V. Shanta**
  - **Ms R. Rama**
  - **Dr R. Swaminathan**
- JH, Lahore, Pakistan
  - **Dr Zeba Aziz**
  - **Dr Javaid Iqbal**
- NCI, Cairo, Egypt
  - **Dr Hussein Khaled**
  - **Dr Atef Badran**
- Susan Komen for the Cure Foundation
  - Education/Training Grant
- OIA, NCI, USA
- Monitoring
  - **Dr Julia Challinor**
- Statistical Analysis
  - **Dr David Venzon, NCI, USA**
- INCTR, Brussels
  - **Ian Magrath**
  - **Melissa Adde**
  - **Carol Falcon**