RESEARCH COMMUNICATION

Pattern of Compliance with Treatment and Follow-up of Cervical Cancer Patients at Chittaranjan National Cancer Institute, Calcutta

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Abstract

A retrospective analysis of the 5-year follow-up data of 1003 cancer cervix patients registered at the Department of Gynaecological Oncology of Chittaranjan National Cancer Institute (CNCI), Calcutta during the period from January 1 to December 31, 1991, was made. This is the first study on the follow-up pattern of ca-cx , the commonest female cancer in Eastern India. For obtaining information on the survivors, postal correspondence was made with the patients or their families using a pre-set questionnaire utilizing pre-paid reply post cards. Parameters like age of the patient, stage of cancer at diagnosis, treatment protocol and socio-economic status were included in this analysis.

Key Words : cancer statistics - site of carcinoma in cervix - treatment compliance - follow-up compliance

Asian Pacific J Cancer Prev, **1**, 289-292

Introduction

There is a need to evaluate cancer services which will provide a baseline on current treatment, its success and failure and on the efficiency of the organisation. This process is severely hindered by incomplete information in respect of increasing number of lost to follow-up cases (drop outs). This is an problem that needs to be addressed now. Inadequacies in quality of important medical information are not new and are seemingly ongoing.

It is evident from the data of Annual Reports of Hospital-Based as well as Population-Based Cancer Registries in India that only 30-40% of the registered patients complete their treatment and a majority of the remaining 60-70% tend to be defaulters. This leads to a major set back to cancer treatment and cancer patient related research.

The world-wide occurrence of the number of cervical cancer cases accounts for about 15% of all cancers diagnosed in women. About 20% of these cases occur in the developed countries, while 80% are found in the developing countries (Laara et al.,1997, Sankaranarayanan et al; 1998). Although in most developed countries, there has been substantial decrease in the incidence of this cancer over time,cervical cancer continues to take its toll, particularly in the socially disadvantaged populations of many developing nations, including India.

In India, cancer of the uterine cervix (Ca-Cx) is the commonest malignancy in females, as observed from the reports of the different cancer registries (National Cancer Registry Programme,1992; Siddiqi et al., 1996; 1997). While some epidemiological studies have been done to evaluate the risk factors and formulate control strategies, not much effort has been made in respect of the follow-up data or the subsequent survival analysis. The use of survival measures is necessary for evaluating success in cancer patient care, but unfortunately survival measures are usually least understood of all the basic statistical measures used in a hospital cancer registry (Nandakumar et al., 1995; Hirayama et al., 1980).

Materials and Methods

The Chittaranjan National Cancer Institute (CNCI) is one

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of the 12 Regional Cancer Centres in India and has facilities for detection, diagnosis and treatment of cancer patients. A total of 1003 Ca-Cx patients registered during the year 1991 at CNCI were enumerated in this survey. Data on these patients were collected from the medical record department of the hospital. The following parameters were carefully considered in this analysis:

~ Primary site
~ Date of diagnosis
~ Age at diagnosis
~ Stage at diagnosis
~ Treatment
~ Treatment compliance of the patients
~ Economic status of the patients
~ Regular follow-up status of the patients as per hospital records

The existing hospital records for the Ca-Cx patients showed that a majority did not turn up for their periodic check-ups at the follow-up clinic of the hospital. So the total number of lost to follow-up cases appeared to be very high. In order to enumerate the possible number of surviving patients at the end of five years, it was decided to conduct a mail enquiry. Pre-paid reply post cards were sent to the patients' registered addresses with a printed questionnaire. The items of information required from the patients were:

~ Their vital statistics (Dead or alive)
~ If dead, the date of death
~ Present health status
~ Whether they could come for a check-up

The analysis was made on the basis of the replies received from the patients within four months of the postal enquiry.

Results and Discussion

Table 1 gives the age distribution pattern of the Ca-Cx patients who were registered at the hospital during the year 1991 and have been included in this survey. The majority of the patients were found to be in the 40 to 60 years of age group.

Table 2 gives the stage-wise distribution of the Ca-Cx patients included in this study, as per the FIGO classification. It is evident from the table that most of the patients came to the reporting institute at an advanced stage (Stage IIIB) of the disease. One of the major problems faced in treatment of cancer patients in this region is their non-compliance to the treatments suggested after the confirmation of diagnosis, which results in a large number of dropouts.

Table 3 shows that almost 40% of the patients refused to undergo any treatment at all.

Table 4 shows that majority of the patients (79.76%) were treated with radiotherapy.

Table 5 shows that a majority of the patients attending the

Table 1. Distribution of Ca-Cx Patients by Age.

Age group	No. of patients	Percentage (%)
10-19	1	0.10
20-29	33	3.29
30-39	172	17.15
40-49	331	33.00
50-59	274	27.32
60-69	149	14.86
70-79	36	3.58
80 & above	7	0.70
Total	1003	100.00

Table 2. Stage-wise Distribution of Cervical Cancer Patients.

Stage	No. of patients	Percentage (%)
I_A	2	0.20
I_B	76	7.58
II_A	17	1.69
II_B	144	14.36
III_A	6	0.60
III_B	670	66.80
IV	88	8.77
Total	1003	100.00

Table 3. Patient Compliance with Treatment

Compliance	No. of patients	Percentage (%)
No treatment*	88	8.77
Treatment received	588	58.62
Treatment advised but not received	171	17.06
Drop out after diagnosis	156	15.55
Total	1003	100.00

*Disease was too advanced at the first contact for curative treatment to be possible

Table 4. Type of Treatment Received by the Patients

Type of treatment	No. of patients	Percentage (%)
Surgery only	42	7.14
Radiotherapy only (Radiotherapy +Brachytherapy)	469	19.76
Combinational therapy (Surgery, Radiotherapy and/or Chemotherapy	77	13.10
Total	588	100.00

Table 5 : Distribution of the Ca-Cx Patients According to the Income-group. (Based on their Monthly Family Income)

Income group	No. of patients	Percentage (%)
Low	646	64.41
Middle	273	27.22
High	84	8.37
Total	1003	100.00

Low - Monthly Family income is less than Rs.1000.
Middle -Monthly Family income is between Rs.1000 to.1500.
High -Monthly Family income is grater than Rs.1000

Table 6 : Analysis of the Postal Correspondence

Type of response	No. of Patients	Percentage (%)
Replied	195	19.44
Did not reply at all	735	73.29
Sent back the blank reply post cards	10	0.99
Not available at old addresses	63	6.28
Total	1003	100.00

Table 7 : Analysis of the Responses Received from 89 Alive Cases.

a) About present status of health

Present status of health	Number of patients	Percentage (%)
Normal	63	70.79
Unwell	23	25.84
Bed-ridden	3	3.37
Total	89	100.00

b) About whether possible to attend out patient door (OPD).

Possible to attend OPD.	Number of patients	Percentage (%)
Possible	51	57.30
Not possible for financial reasons	28	31.46
Not possible for health reasons	10	11.24
Total	89	100.00

hospital came from a low economic background.

Table 6 shows that the high percentage of non-responsiveness is possibly due to the ignorance among most of the patients about the importance of follow-up procedures in treatment of cancer and the necessity of regular periodic check-ups to find out the recurrence of the disease. Their low socio-economic conditions, poor literacy level and general lack of awareness of the disease itself also

Table 8. Distribution for 5-year Follow-up Status

Interval number I	Follow-up interval $T_{i-1}-T_i$	Number entering interval ir_i	Deaths from all causes d_i	Withdrawals w_i
1	0-1	1003	56	656*
2	1-2	291	21	80
3	2-3	190	17	42
4	3-4	131	9	33
5	4-5	89	3	35

* 415 (63.26%) cases were not found suitable for further curative treatment due to advanced stage of their disease, treatment advised but not started and dropout after confirmation of diagnosis.

contributed to this.

From the responses received by postal correspondence from 195 patients, it was observed that 106 patients had died in the course of five years and only 89 remained alive. With respect to the postal enquires regarding their present state of health and whether they could attend the outpatient clinic for a check-up, the information obtained is depicted in Table 7.

Table 8 shows that at the 6th year after the completion of their treatment only 51(5.08%) patients were in regular follow-up, 846 (84.35%) had been lost to follow-up and only 106 (10.57%) deaths were recorded for the total registered cancer cervix patients .

Conclusions

From the present study it is evident that a majority of the patients did not receive their treatment and a large number failed to attend for the regular check-ups advised by the clinicians. With these large number of dropouts it will not be worthwhile to use the data for survival analysis which will be effected by bias due to large number of dropouts. Causes of non-compliance to treatment and failure to attend follow-ups are multifactorial (8, 9, 10, 11). Any effort to find out the underlying denominators should take a collective approach encompassing different appropriate fields e.g. Sociology, Economics, Extension Education, Clinical Psychology, Statistics, Epidemiology, Preventive Oncology and Clinical Oncology. Experts from each area will employ their own methods to find out the definite facts which enforce the patients to drop out. Then after establishing these facts scientists and doctors with the help of Government can work together to provide appropriate remedial measures. It is to be hoped that, as a result, the number of drop out patients can be minimised.
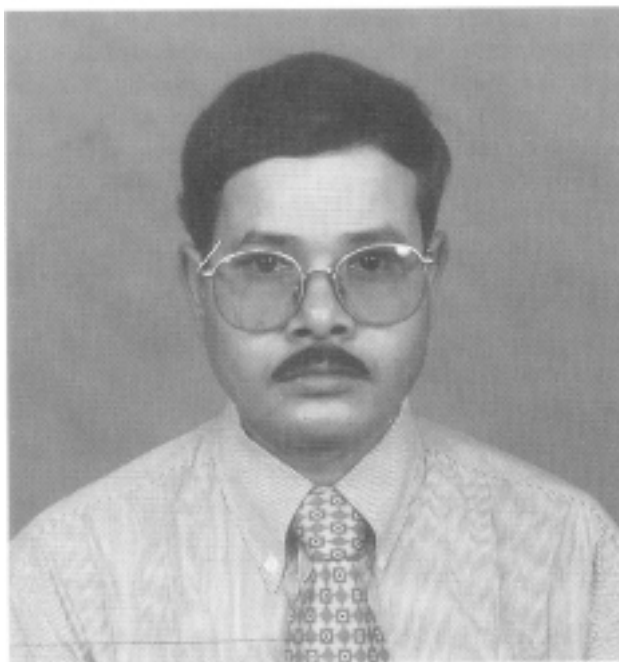
Acknowledgement

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Personal Profile: **Syamsundar Mandal**

Syamsundar Mandal is working as the Statistical Officier in Charge, Medical Records Unit of Chittaranjan National Cancer Institute (CNCI), Calcutta, India. He is one of the founder investigators of the Hospital Cancer Registry, CNCI, and the Population Based Cancer Registry for Calcutta, India.He joined as the Statistical Officer in the Department of Epidemiology & Biostatistics in 1996 and previous to this was the Statisticial of the Cancer Centre & Welfare Home, Calcutta, and worked as a Senior Research Assistant (Statistics) in the School of Biomedical Engineering, Institute of Technology, Banaras Hindu University, India.

He completed his Postgraduate studies in Statistics in West Bengal, India, and submitted his Ph.D. Thesis recently on Statisitcal Sampling in Banaras Hindu University. He has completed courses on computer applications at the Indian Statstical Institute, Calcutta, Statistical Design of Epidemiological Investigations conducted by the Indian Council of Medical Research, as well as the International Course on Cancer Epidemiology - Principles and Methods, Khon kaen University, Thailand, 1999, conducted by the International Agency for Research on Cancer, Lyon, France. He is currently studying for Master of Population Studies by correspondence at the International Institute of PopulationSciences, Mumbai, India. He is a bonafide member of the International Epidemiological Association and Honorary Secretary of the Association of Indian Social Workers.

The main research interests of Dr Mandal encompass large-scalehospital-based epidemiology for cancer prevention and educational intervention to promote treatment and follow-up compliance in cancer patients.