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Original Article

HEMATOLYMPHOID TUMOURS DIAGNOSED AT DEPARTMENT OF PATHOLOGY, SIR SALIMULLAH MEDICAL COLLEGE DURING TWO YEARS STUDY PERIOD

HOSSAIN MD[1], ISLAM MN[2], RAZZAK M[3], KAMAL M[4], KABIR A[5], KABIR E[6]

Abstract:

During the past century, cancer has emerged as the most challenging problems for public health systems in medium and low income source countries. With a cancer load of more than one million, Bangladesh is not an exception.

The present study shows that hematolymphoid tumours (leukaemia and lymphoma) arethe third most common malignant tumours and lower income generating group is the more vulnerable group for these malignant tumours. It also shows that leukaemia is the fifth highest andlymphoma is the sixth highestof the studied malignant tumours.The most common leukaemia is acute lymphoblastic leukaemia and found in both paediatric and adult age group. Acute leukaemia is found more than chronic leukaemia and lymphoblastic and myeloblastic leukaemia are found in equal proportion. Chronic myeloid type is found more than lymphocytic type.

Hodgkin lymphoma is nil in paediatric age group and more common in adult male than adult female. Non Hodgkin lymphoma is found more in adult age group and more common in male than female but in paediatric age group more common in female than male. Non Hodgkin lymphoma is found in 88% and Hodgkin lymphoma in rest 12% of the Lymphoma cases.

1. Dr. Md. Delwar Hossain, Lecturer, Department of Pathology, SSMC, Dhaka;
2. Dr. Md. Nasimul Islam, Professor and Head of the Department of Pathology, SSMC;
3. Dr. Monira Razzak, Associate Professor, Department of Physiology, Dhaka National Medical College, Dhaka;
4. Prof. Mohammed Kamal, Professor, Department of Pathology, BSM Medical University;
5. Prof. Alamgir Kabir, Professor, Department of Haematology, SSMC & MH;
6. Prof. Enamul Kabir, Professor, Department of Pathology, SSMC.

Correspondence to: Dr. Md. DelwarHossain, Lecturer, Dept. of Pathology, Sir SalimullahMedical College, Dhaka-1100. Mobile: 01712561331, 01967199636, E-mail: mehruddelwar@gmail.com

Introduction

Cancer burden causes serious health problems both in developed & developing countries[1]. Cancer has devastating effect on individual, family and society of Bangladesh[1]. Cancer is one of the major causes of morbidity and mortality among the non-communicable diseases in our population[1]. Appropriate prevention of cancer deserves urgent attention since the disease is expected to double in the next 20 to 25 years in most of the countries[2]. Cancer in Bangladesh is one of the major killer diseases like many other countries particularly because of ubiquitous exposure to environmental carcinogens, oncogenic viruses & microorganisms, coupled with lack of screening, awareness and poor health seeking behaviors associated with poverty, malnutrition & illiteracy[3]. The magnitude of the problem from cancer is often unrecognized by health & general policy makers alike to other overwhelming & more visible competitive health problems & natural calamities[3].

According to Bangladesh Bureau of Statistics cancer is the sixth leading cause of death in Bangladesh[4]. The number of people developing cancer is expected to increase in number mainly because of increase in life expectancy and life style factors[4]. Each year more than 200,000 people develop cancer and 150,000 die of the disease[4]. IARC (International Agency for Research on Cancer) has estimated death from cancer in Bangladesh was 7.5 % in 2005 and will be increased up to 13 % in 2030[1].

IARC has projected death from 10 leading cancers in males of Bangladesh (2002)[1]are :

1. Mouth and oro-pharyngeal, 2. Lung, 3.Oesophagus, 4.Lymphoma, 5.Stomach, 6.Bladder, 7.Liver, 8.Leukaemia, 9.Colorectal and 10. Prostate cancer. and death from 10 leading cancers in females of Bangladesh (2002)[1] are : 1. Mouth and oro-pharyngeal, 2. Cervical, 3. Breast, 4. Oesophageal, 5. Ovarian, 6. Lung, 7. Lymphoma, 8. Stomach, 9.Liver and 10. Colorectal cancer.

During the 2 years study period 2908 histopathological cases and 5187 cytopathological cases were diagnosed at the department of Pathology & 70 haematological malignant tumours were handled at the department of Haematology, Sir Salimullah Medical College (SSMC) and Mitford Hospital, Dhaka[6].

Materials and Methods

This study is partial presentation of a two years tumour registry study done at the Department of Pathology, SSMC, Dhaka from July, 2013 to June, 2015. It was a cross-sectional observational study done on all patients diagnosed as cases of both benign and malignant tumors by cytopathology, histopathology and haematology.

Data Collection Procedure

A predesigned questionnaire both in Bangla and English was developed according to MacLennan method and software were generatedwith the technical assistance by the University of Chicago Research Bangladesh by the cooperation of department of Pathology, BSMMU. Prior to the commencement of this study, approval was taken from the Ethical Review Committee of SSMC.Each patient was interviewed and relevant information was recorded systematically in a prescribed preformate. A written consent also attached with the questionnaire was explained before the patient/ patient's guardian. The first part of the questionnaire was designed to record the demographic details of patients. The second part of the questionnaire was to record the pathological diagnosis of tumour with its ICD 0-3 and ICD-10 codes.

The information collected was entered into the database by software Microsoft Access 2003 and Visual Basic 6.

How The Data were Recorded?

The data were recorded according to database software. All the patients were supplied 1st part of the questionnaire (topography portion) during access to the department for submission of the specimen or for FNAC or other procedures. The data were entered case after case from the filled up Questionnaire received from the patients during collection of their reports following a self-made registrar in which 10 items were recorded for each case likely1) Case serial number; 2) Case whether it is histopathological / 3) cytopathologicalor 4) haematological specimen; 5) Referred by; 6) Yearly serial number i.e., accession number; 7) Diagnosis; 8) Specimen received from / site; 9) date of diagnosis; 10) Reported by.

Thereafter data were entered into the computer database software accordingly.

Analysis of the Data

Statistical analyses of the results were obtained by using Microsoft access and Window based computer software devised with Statistical Packages for Social Sciences (SPSS-15). The information was partially coded according to ICD - 10 (International Classification of Diseases version -10) & ICD – 03 (International Classification of Diseases – Oncology version 3).

Results and Observation

A total of 53 leukaemia and 49 lymphoma were diagnosed in the Department of Pathology of Sir Salimullah Medical College during the two years study period. The patients were divided into two age groups- paediatric age group (<18 years) and adult age group (>18 years).

Table I

Diagnostic distribution of lymphoma according to age and sex

Trait	Tumour								Total
	DiagnosisHodgkin Lymphoma (HL)				Non-Hodgkin lymphoma				
Age group	Paediatric		Adult		Paediatric		Adult		
Sex	Male	Female	Male	Female	Male	Female	Male	Female	
Frequency	0	0	5	1	1	8	24	10	
Total	0	6	43	49					
Percentage (%)	0		12.24		87.76		100.00		

Table II

Diagnostic distribution of Hodgkin lymphoma among the patients:

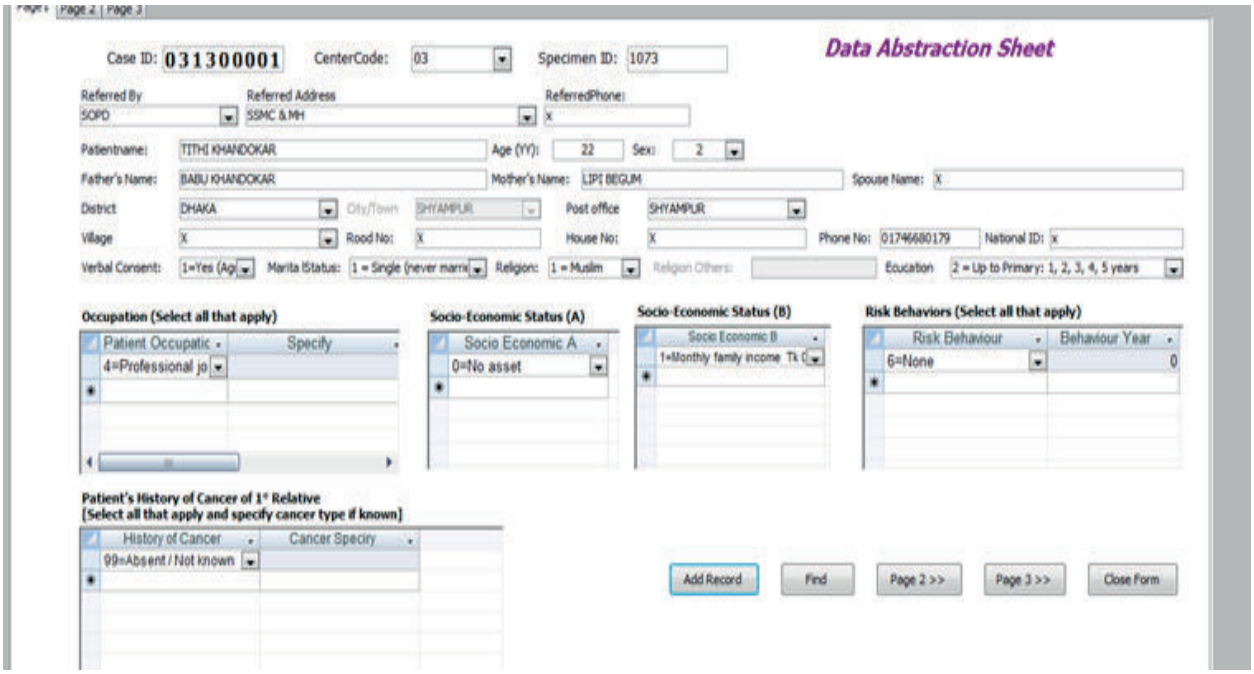
	Hodgkin lymphoma			
Adult male		Adult female		
HL, NOS	Nodular sclerosis	Lymphocyte rich	Mixed cellularity	Nodular sclerosis
1	1	1	2	1
Total		6		

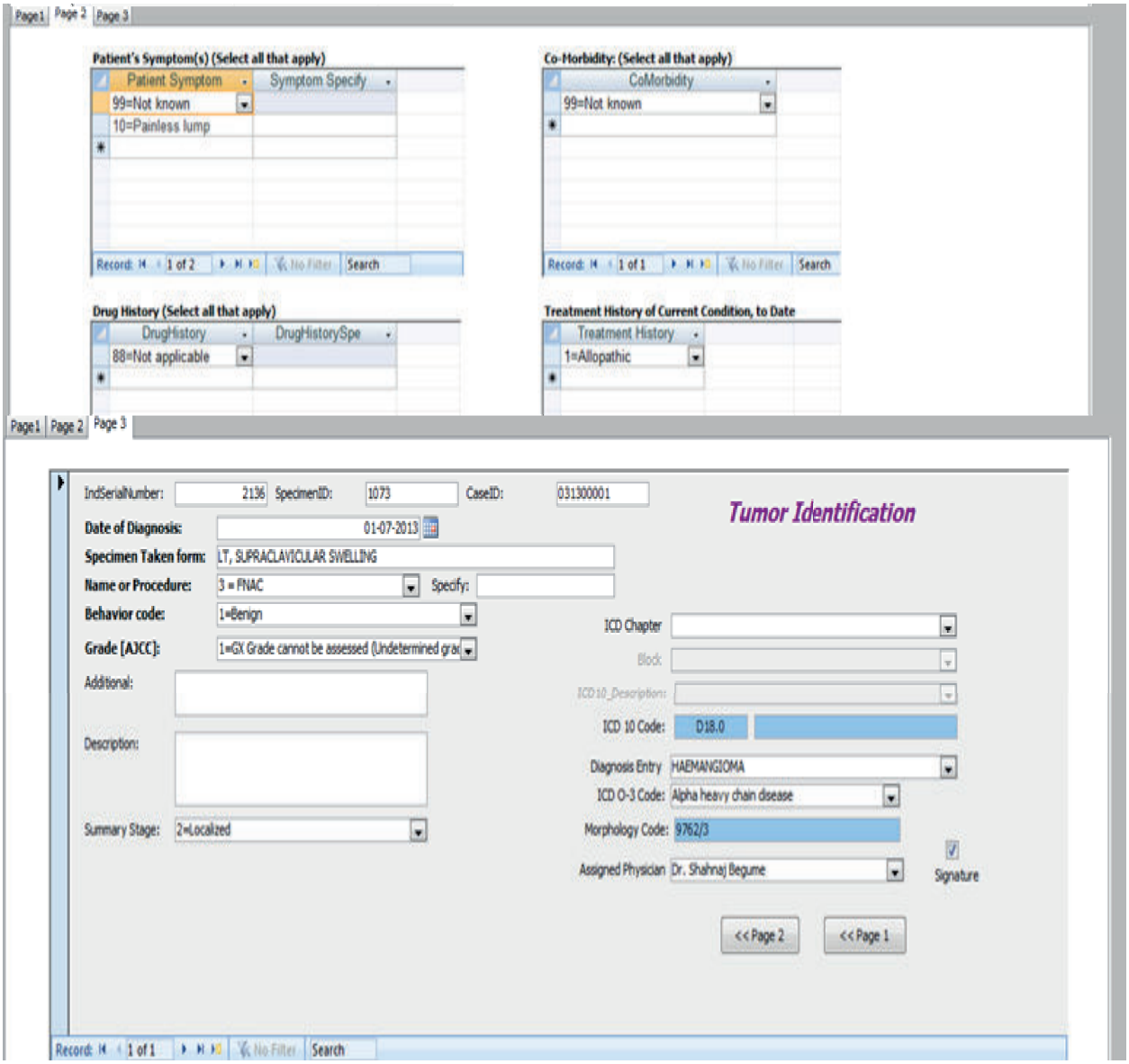
N.B. -HL= Hodgkin lymphoma; NOS= Not otherwise specified.

Table III

Diagnostic distribution of leukaemia according to age and sex

Diagnosis	Paediatric		Adult		Total	Percentage
	Male	Female	Male	Female		(%)
Precursor cell lymphoblastic leukaemia	4	5	5	5	19	35.85
Acute myeloid leukaemia	2	0	12	4	18	33.95
Chronic myeloid leukaemia	0	0	2	4	6	11.32
Chronic myelomonocytic leukaemia	1	0	1	1	3	5.66
Acute promyelocytic leukaemia	1	0	1	1	3	5.66
Acute leukaemia	0	0	0	1	1	1.89
Acute lymphoblastic leukaemia	0	0	0	1	1	1.89
Chronic myeloproliferati-ve disease	0	0	0	1	1	1.89
Chronic lymphocytic leukaemia	0	0	1	0	1	1.89
Total	8	5	22	18	53	100.00





The factors associated with prognosis in these patientsare age, stage, performance status, the presence of extranodal disease, and lacticdehydrogenase levels, which can be summed to form the International Prognostic Index. Using this model, four risk groups can be identified with a predicted five-year survival of 73%, 51%, 43%and 26% when treated with conventional anthracycline based chemotherapy (e.g.cyclophosphamide, doxorubicin, vincristine, prednisone).

Disease Study Group has proposed aprognostic model for advanced stage disease,and has identified seven factors which influence outcome. These are age,sex, histology, symptoms, number of involved sites, bulk of disease and erythrocyte sedimentation rate. Using such models it may be possible to identify poor prognosis patients who will get benefit from more aggressive high-dose therapies, such as Stanford V (doxorubicin, vinblastine,mustard, bleomycin, vincristine,etoposide and prednisone) or BEACOPP(bleomycin, etoposide, adriamycin, doxorubicin], cyclophosphamide, oncovin[vincristine], procarbazine and prednisone)from the outset (Medical oncology, p281).

Survival for both Hodgkin disease and non-Hodgkin lymphomas has improved markedly with time, in response to the development of more effective chemotherapy and bone marrow transplantation.

Five-year survival after diagnosis of non-Hodgkin lymphoma patients in most developed countries is more than 50%, but only 17-35% in developing countries. Currently, survival of Hodgkin disease patients is related to extent of disease at diagnosis; overall, at five years it is between 70% and 90% in North America and Europe, but only 30-55% in developing countries.

Discussion

Most common leukaemia is acute lymphoblastic leukaemia and found in both paediatric and adult age group. Acute leukaemia is found more than chronic leukaemia and lymphoblastic and myeloblastic leukaemia are found in equal proportion. Chronic myeloid type is found more than lymphocytic type. It also shows that 11% patients had risk behaviours and 34% patients had family history of haematological malignancy.

No Hodgkin lymphoma is found in paediatric age group but found more in adult males than females. Non-Hodgkin lymphoma is found in both age group but in paediatric age group more found in females. On the otherhand, in adult age group more found in males. Mixed cellular type Hodgkin lymphoma is found more in number than other types.

Most of the patients were from low income generating groups. Most were house wives, students, unemployed, garments or industrial workers and hawkers. Maximum patients were illiterate and the rest were mostly upto SSC level educated. Most were Muslim and a small number were Hindu. Most of the patients hailed from Dhaka city followed by Munshigonj, Shariatpur, Madaripur, Comilla, Manikgonj, Narayangonj, Bhola, Kishoregonj, Patuakhali, Gazipur and Narsingdi and also from other 45 districts of Bangladesh. Out of total 64 districts of Bangladesh only 7 districts patients were nil in this study.

Mostofa et al 2009 showed in 2005-2007 that lung cancer (17%) followed by breast cancer (11%), cervical cancer (9.1%), lymphoid malignancies (6%) in their study[5].

In the present study, leukaemia and lymphoma represented the fifth 53 (8.15%) and sixth 49 (7.40%) highest frequency respectively[6].

Conclusion

Cancer registries play a major role in providing the data to justify the establishment, implementation and monitoring of a national cancer control programme, therefore, stability in cancer registration is of pivotal importance.

This partial study of the two years study done (from July, 2013 to June, 2015) on “Establishment of Pathology Based Tumour Registry at SSMC, Dhaka”. The whole study like this one may pave the path of a nationwide population based cancer registry in future along with other institutions of the country.

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