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Original Article

Pattern and Trend of Cancer in a Tertiary Care Hospital in a Single Year

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ABSTRACT: Scarcity of cancer data from Bangladesh has huge adverse impact in developing realistic approach towards cancer management program. The present study is an analysis of the pattern and trend of cancer at Apollo Hospital Dhaka based on cancer registry ofhistopathologyDepartment.
This single year observation from cancer registry of a tertiary care hospital of Bangladesh revealing the top five cancer by sites were breast (17%), colorectum (12%), stomach (11%), lung (8%) and prostate (6%) among 557 detected cancer cases at histopathology departmentin 2017.A little male preponderance (Male:Female ratio 1.2:1) was noted. Cancer was more common in ages between 50 and 70 occurring about 43%. Malignancies by site such as colorectum, lung, prostate, stomach, lymphoidwere leading cancers among males. In females, the most frequently reported malignancies by site were breast, colorectum, stomach, lymphoid and lung.

Keywords: Tertiary Care Hospitals, Histopathology, malignancy, Frequency, 2017

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INTRODUCTION

Bangladesh is very soon reaching its golden jubileewithout the presence of a population based cancer registry. Cancer is anticipated to be an progressively major cause of morbidity and mortality in Bangladesh in the next few decades; about 1.08 lakh Bangladeshi are expected to die of cancer in 2018[1]. It is vital to know the proper data on cancer burden to deal effectively and efficiently with their own cancer problems. Cancer data is an important basisfordeveloping strategy to fight against cancer. In absence of national level population based cancer registry in Bangladesh, hospital based data can generate useful information. This is an attempt made to evaluate the cancer scenario based on hospital data of a single year in 2017.

MATERIALS AND METHODS

This observational study is the data analysis of malignant tumourbased on histopathology diagnoses from 5500 submitted specimen at Apollo Hospitals Dhaka in 2017. For histopathological diagnosis haematoxylin and eosin stained slides were prepared from formalin fixed paraffin blocks after routine processing of tissue[2]. Special stain and immunostain were carried out when it was essential[3]. This study did not include cytological or haematological diagnosis of malignancy. it also excluded dysplastic and precancerous lesion.

RESULTS

During the study period (Jan 2017 to Dec 2017), 557 cancer cases were diagnosed histopathologically among the submitted 5500 histopathological specimen. Proportion of malignancy to the submitted specimen was 10%. Among 557 cancer patient, Male: Female ratio was 1:1.23. Cancer cases here showed little male preponderance. Age distribution noted in this study population ranging between 1-90 years and average age was 54.7 years.

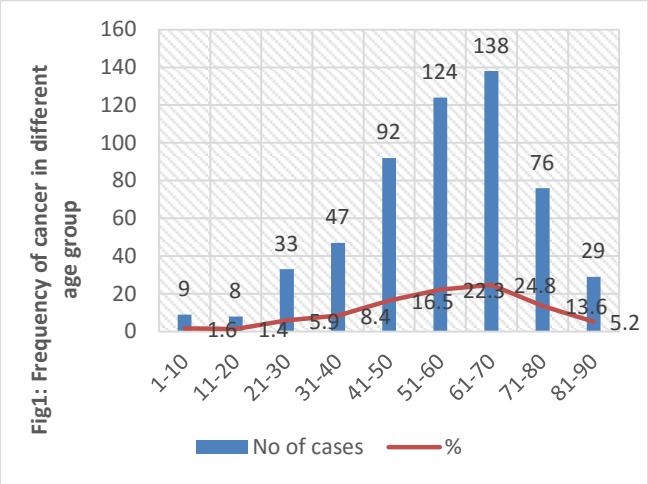

Table 1: Top twenty cancer by sites

Icd-O code	Site	No of cases	% of total
C50	Female Breast	97	17
C18-21	Colorectal including anus	72	13
C16	Stomach	46	8
C33-34	Lung including trachea	43	8
C61	Prostate	36	6
C82-85, C96	Non-Hodgkin Lymphoma	28	5
C70-72	Brain, nervous system	23	4
C67	Bladder	19	3
C17	Small gut including duodenum and periampullary	17	3
C32	Larynx	17	3
C64-66	Kidney, Renal pelvis and ureter	16	3
C48	Peritoneum and retroperitoneum	15	3
C00-C08	Lip, Oral Cavity	14	3
C11	Nasopharynx (Nasal)	13	2
C15	Oesophagus	13	2
C49	Soft tissue	11	2
C73	Thyroid	10	2
C40-C41	Bone	9	2
C67	Ovary	8	1

Figure 1 shows the frequency of malignancy in stratified age group. Highest numbers of cancer cases were in 50-70 years age group (39%). Number of cancer in childhood and adolescent (upto 20 years) were only 3% (17 cases).

Table I shows the distribution of Top 20 leading sites of cancer in both sexes. The most common cancers in both sexes were breast (17%), colorectum (13%), stomach (8%), lung (8%) and prostate (6%).

Breast Cancerranked as a leading cancer site in Female (38%) followed by colorectal carcinoma, lymphoma, stomach and lung cancer (Fig 2). Fig 3 summarizes the number of diagnosed cancer cases by site in male in 2017 at Apollo Hospital Dhaka. The common sites in male were colorectum followed by prostate, lung, stomach and lymphoid.

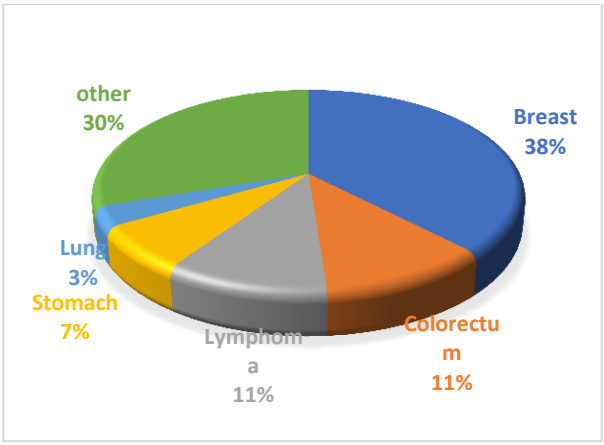

Fig2. Frequency of Cancer in Female

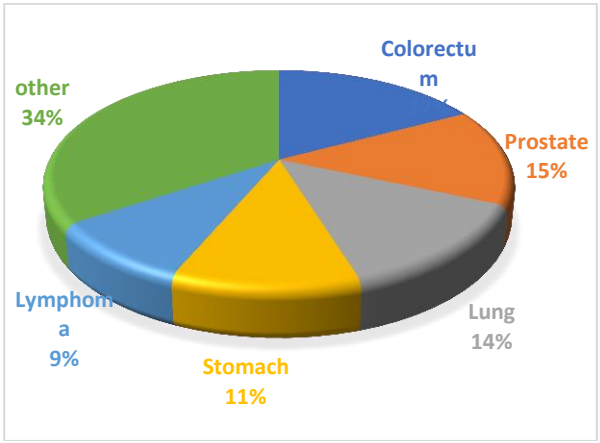

Fig 3. Frequency of cancer in male

Histomorphologically most of the tumourwere epithelial malignancy (83%). Again majority of the epithelial tumour were adenocarcinoma (84%). If we lumped the malignancy of upper aerodigestive tract (including oral cavity, pharynx, nasopharynx, larynx, oesophagus); squamous cell carcinoma is the prime histopathological pattern of carcinoma at this site (Fig6).Tumour of this anatomical region were 10% of total malignancy.

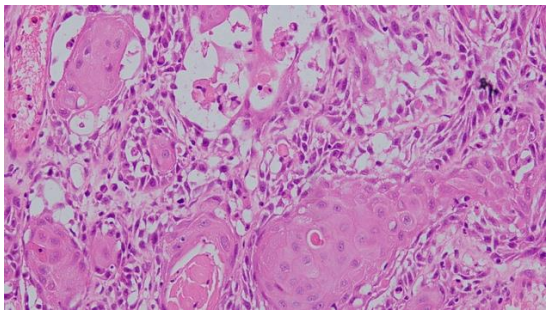

Fig4. squamous cell carcinoma oral cavity

DISCUSSION

Female breast cancer toppedin this series with an occurrence of 17% of the total cancer even whenresults for both sexes are combined.According to National Institute of Cancer Research and Hospital(NICRH) report breast cancer remained the leading cancer of female during the period 2005-2010 in Bangladesh[4,5].GLOBOCAN 2018 estimated an age-standardized incidence rate (ASR) of breast cancer is17 per 100,000 in females in Bangladesh and showed the highest prevalent cancer considering both sex[1]. 'South Asian countries are facing a hidden breast cancer epidemic'[6].

According to theInstitutional dataof Bangladesh, most frequently observed cancer in Bangladeshi population was lung cancer irrespective of sex[4,5,7]. In this study Lung cancer ranked fourth. Worldwide, lung cancer also remained as the most frequent cancer site which comprises more than 2 million new cases and almost 1.7 million deaths, as estimated in 2018[1].

GLOBOCAN 2018 estimated 18.1 million new cancer cases worldwide in 2018. In both sexes combined, lung cancer is the most commonly diagnosed cancer (11.6% of the total cases) and closely followed by female breast cancer (11.6%), prostate cancer (7.1%), colorectal cancer (6.1%), andstomach cancer (5.7%)[1]. According toNICRH report,the top five organs affected in both sexes in Bangladesh were: lung (18.1%), breast (11.7%), cervix of uterus(9.3%), oesophagus (4.9%) and stomach (4.1%)[4].

Our two large institutional study from the country showed cervical carcinoma was the second most common cancer in the female[4,7]. Some Previous study of the country[8,9]and some recent study[10]also showed cervical cancer was the top of female cancer.In our series frequency of cervical cancer is very low (.3%). This probably reflects the observation thatmajority of sufferers of uterine cervical carcinoma were from lower socio-economic group having less education of the country.[11]

The prostatic cancer is the second most common cancer in male worldwide[1] and themost common cancer in American men in 2017[11]. There is variation of institutional data within the county, second common cancer site in male also varies betweenoesophagus, larynxor Lymphoma[4,7,12]. In our series colorectal carcinoma is the second most common tumourin male and also in female. Position of rectal cancer was sixth to eighth in NICRH data[4,5]as they present colorectal cancer splitting into multiple anatomical sites.Among other sites of digestive system, stomach cancer is also common in different institutional studyaround the country and also in this study.Frequency of liver cancer (2.5-3%)[4,5]was also high in the data of NICRH which was not common in other institution of Dhaka and in our series. Worldwide hepatocellular carcinoma lies within top ten malignancies.

Oral cancer is the 4th most common cancer in Bangladesh in GLOBOCAN 2018 estimated incidence[1]. In our series the frequencyoral cancer is significant but remainedbehind in ranking. It is also frequently occurred cancer in NICRH population. Some previous institutional study showed high frequency of oral cancer than recent institutional study[9]. Squamous cell carcinoma is the most common histopathological pattern of malignancy of aerodigestive tract in this study.Betel-nut (Areca catechu) chewing is a powerful risk factor for oral and esophageal cancer[13]and significant number of Bangladeshi have addiction associated with paan products[14].

There are about2.5lakh cancer patients in Bangladesh, with about 1.5 lakh patients newly diagnosed with cancer each year and a number of cancer deaths of 1.08 lakh[1]. It appears that more than fifty percent of cancer patient of Bangladesh remains outside of tissue diagnosis and health care system.Histopathology remains the mainstay in the diagnosis of cancer and diagnosis is the first critical step in the management of cancer patient.

CONCLUSION

Major challenge of Bangladesh to handle cancer is its capacity of looking at the problem. It needs a strong desire of health planner of the country to develop a national population based cancer registry.The scope of availability of cancer related informationin Bangladesh is in infantile stage. More input is required in 1stNational Cancer Control Strategy and Plan of Action 2009–15[15]. It is well known fact that Bangladesh need to improve its cancer management strategies[16,17,18].Frequency of different types of cancer occurring in Bangladeshi population is not similar with that of other population groups worldwide. Increasein local research defined by epidemiological priorities will bring greatestinfluence in policy formulation, research, prevention and treatment of cancer.

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