

Histopathology Based Disease Patterns in Dinajpur

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To find out the patterns of biopsy specimen and histopathological lesion in the sample examined in the laboratory at Dinajpur district we analyzed a total of 200 biopsy specimens. This specimens were examined under light microscope. Sections were prepared by routine formalin fixation, paraffin embedding and haematoxylin and eosin stain. Samples were 46(23%) from male and 154 (77%) from female with M:F ratio 0.3:1. Majority of the specimen were supplied from female genital system followed by gastrointestinal system and breast. Uterine cervix was the most frequent site followed by breast and ovary. Inflammatory lesions were more in comparison to neoplastic lesion (41% vs 34%). Neoplastic lesions were found in 65 sites of which 35 (53.8%) were malignant and 30 (46.2%) were benign lesion. Most benign tumours were found in breast followed by ovary and myometrium of uterine body. Colo-rectal cancers were the topmost malignant tumour followed by breast and stomach. Mean age of benign and malignant tumours were 46.2 years and 30.6 years, respectively. Peak incidence of benign tumours were found in second decades whereas in case of malignant lesion it was in the fourth decade. Histological disease patterns of Dinajpur districts are different from Mymensingh district.

[Dinajpur Med Col J 2009 Jan; 2 (1):13-16]

Key words: Biopsy, histopathology, disease patterns

Introduction

Biopsy is a surgical procedure for removal of tissue for microscopic examination. Histopathology is microscopic examination of tissue for the manifestation of the disease. Biopsy or surgical specimens are examined microscopically by histopathologists after the specimen have been processed, sectioned and placed on glass slides. Histopathological technique gives the direct evidence of the disease in a tissue or organ. This is the most important tool of the pathologists to routine diagnosis of cancers and other disease.

Histopathological disease patterns may vary according to the prevalent of the disease in different geographical areas. Types and sites of organ of biopsy depends on the availability of clinicians or surgeons who can perform the biopsy or surgical procedure. Dinajpur is remote district about 400 Km away from

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capital city Dhaka of Bangladesh. Special pathological investigation such as histopathology and cytopathology facility developed recent years. Research work and published data on Histopathological records are lacking in this region. Histopathology based disease patterns has been studied by some investigators in our neighboring countries such as India, Pakistan and Oman.¹⁻⁵ Histopathology record based cancer patterns also has been studied in Mymensingh district of Bangladesh.⁶ There might be difference of disease patterns in biopsy specimen and histopathological disease patterns in Dinajpur district. So, this study was designed to find out the pattern of biopsy specimen and disease pattern in the specimen examined the laboratory of Dinajpur district.

Methods

Histopathology reports of the biopsy specimen examined in one laboratory in Dinajpur town was retrieved from the record book. First 200 specimens were taken for statistical analysis. These specimens are examined from January to July of 2008. Tissues were fixed in 10% formalin, embedded in paraffin wax and stained with haematoxylin and eosin stain. Age, sex, organ, sites and Histopathological diagnosis were recorded in a tabulated form. Data were analyzed by computer program SPSS.

Results

A total of 200 specimens were analyzed of which 46 (23%) were male and 154 (77%) were female (M:F ratio = 0.3:1). The organ system distribution of the cases is shown in the table 1. Majority of the specimen were supplied from female genital system followed by gastrointestinal system and breast. The frequency of biopsy sites are shown in the table II. Uterine cervix is the most frequent site followed by breast and ovary. Types of lesions lesion is shown in the figure 1. Inflammatory lesions were more in

comparison to neoplastic lesion (41% vs 34%). Neoplastic lesions were found in 65 sites of which 35 (53.8%) were malignant and 30 (46.2%) were benign lesion. Frequency of benign tumour in different sites are shown in the table III. Most benign tumours were found in breast followed by ovary and myometrium of uterine body. Distribution of malignant tumours are shown in the table IV. Colorectal cancers were the topmost malignant tumour followed by breast and stomach. Mean age of benign and malignant tumours were 46.2 years and 30.6 years, respectively (table V). Distribution of benign and malignant neoplasm in different age groups are shown in the table VI. Peak incidence of benign tumours are found in second decades whereas in case of malignant lesion it is in the fourth decade.

Table I: Frequency of biopsy specimen according to organ system

System	Number	%
Female Genital System	68	34.0
Gastrointestinal System	31	15.5
Breast	27	13.5
Lymph nodes	20	10.0
Hepatobiliary System	12	6.0
Endocrine System	8	4.0
Male Genital System	8	4.0
Skin	7	3.5
Head & Neck	6	3.0
Others	13	6.5

Table II: Frequency of site of biopsy

Sites	Number	%
Cervix of uterus	27	13.5
Breast	25	12.5
Ovary	15	7.5
Endometrium	14	7.0
Gall bladder	11	5.5
Myometrium	8	4.0
Stomach	8	4.0
Thyroid	8	4.0
Neck	7	3.5
Rectum	7	3.5
Omentum	6	3.0
Prostate	6	3.0
Others	58	29.0

Table III: Frequency of benign tumours in different sites

Sites	Number	%
Breast	11	39.3
Ovary	8	28.6
Myometrium	4	14.3
Others	6	17.8

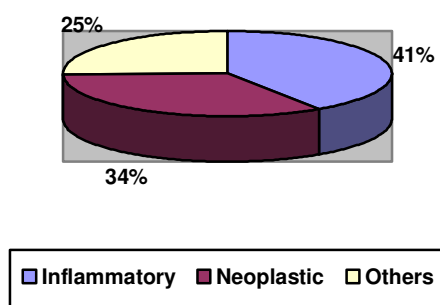


Figure 1. Types of lesion in biopsy specimen.

Table IV: Frequency of sites malignant tumours (n=35)

Sites	Number	%
Colo-rectum	9	25.7
Breast	5	14.3
Stomach	4	11.4
Gall bladder	2	5.7
Ovary	2	5.7
Thigh (soft tissue)	2	5.7
Others	11	42.9

Table V: Mean age of benign and malignant tumours

Tumour Type	Mean Age	95% CI
Benign tumour	30.6	25.8 - 35.5
Malignant tumour	46.2	39.8 - 52.6
All tumours	40.8	38.6 - 43.1

Table VI: Age group distribution of neoplastic lesion

Age Group	Benign n (%)	Malignant	All Types
< 10	1 (3.3)	2 (5.7)	4 (2.0)
11 – 20	9 (30.0)	1 (2.9)	18 (9.0)
21 – 30	7 (23.3)	4 (11.4)	42 (21.0)
31 – 40	7 (23.3)	10 (28.6)	53 (26.5)
41 – 50	4 (13.3)	5 (14.3)	38 (19.0)
51 – 60	6 (6.7)	4 (11.4)	20 (10.0)
61 – 70	0	7 (20.0)	16 (8.0)
71 – 80	0	2 (5.7)	9 (4.5)

Discussion:

This study is histopathology based. Data were recorded in histopathology report book on one private laboratory in Dinajpur district. Our objective was to find out patterns of biopsy specimen and disease in it. There are some limitation in the performance of surgical procedure. Surgeons dealing with central nervous system, respiratory system and liver is not available now in this district. So, we could not get the specimens of these organ system. WHO stated that lung cancer is most frequent malignant tumour in the world followed by colo-rectum, breast and stomach.⁷ In Mymensingh district gastric cancer was in top position followed by uterine cervix and colo-rectum. It was a histopathology based study.⁶ Colo-rectal carcinoma was in top position among malignant tumours, in our study, followed by breast and stomach.

Samples from female were more frequent than that of male in our study. Majority of female in our study appeared to gynaecologists. They frequently remove uterus for fear of various malignant gynaecological cancer such as carcinoma of cervix and ovary. It is one the reason to have more samples from female patients.

From our study we can conclude that in the Dinajpur district (except lung, brain and liver) female genital system, gastrointestinal system

and breast are frequent specimens for histopathological examination. Uterine cervix, breast and ovary are frequently examined histopathologically. Inflammatory lesions are more frequent than neoplastic lesions in biopsy samples. Breast is most frequent site for benign tumour and colo-rectal region is most common site for malignant tumour. Mean age of malignant tumour is higher than benign tumour. Peak incidence of benign tumour is second decade and of malignant tumour is in the fourth decade. Disease patterns have some variation from that of Mymensingh district.

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