Original Article

Histopathological Examination Profile of Biopsy Specimens in a Remote Tertiary Hospital.

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Abstract

Examination of biopsy specimens is necessary to find out the diagnosis. To detect the spectrum of histopathological findings in surgically resected specimens sent in the department of Pathology, Khwaja Yunus Ali Medical College & Hospital (KYAMCH), a rural tertiary hospital in Bangladesh. A total of 1329 specimens from January 2013 to December 2013 were evaluated in this study. Among these, 444 (33.4%) were malignant, 226 (17.0%) were benign, 29 (2.2%) were precancerous, 481 (36.2%) were inflammatory, 14 (1.1%) were tuberculosis, 12 (.9%) were suppurative lesion and 25 (1.9%) were inadequate for diagnosis. The mean age±SE of patients was 42.28±1.68 years. Incidence of malignancy was higher in compare to previous study. It indicates the importance of histopathology for diagnosis and also to exclude malignancy. So any suspicious growth should be excised as early as possible and sent for histopathology. This will help to reduce patients' morbidity and mortality.

Key words: Malignancy, biopsy specimen, histopathology finding.

Introduction

Histopathological diagnosis is a routine method for examination of surgical specimens. When human beings are affected by diseases, pathological changes occur according to the disease process. After cardiovascular disease, cancer is the (second) leading cause of death[1].

Human body is consisting of several systems such as gastro-intestinal, respiratory, genito-urinary, nervous, lymphatic system etc. Diagnosis of particular disease of different system is a complex phenomena and depends on clinical history, physical examination, FNAC, histopathology, tumour marker, CBC, ESR, MT, X-ray, CT scan, ultrasonography, serology and immunology etc[1,2]. Among them histopathological examination is the confirmatory method for diagnosis of surgically resected specimens. Throughout the world, it is mandatory to send biopsy samples for histopathological examination as a common practice[2-5]. This study will be designed to find out the relative frequency of different lesions like malignancy, benign tumour, tuberculosis, inflammatory conditions and other diseases of different organ or systems[2,3,4,5]. This will reflect the overall impression of cancer and other diseases in biopsy specimens in Bangladesh specially in northern region.

Materials and method

The study consists of consecutive 1329 surgical specimens from patients of different age and sex sent by different surgeons like General surgeon, Gynaecologist, Endoscopist, Dermatologist etc. for histopathological examinations. This was a retrospective and descriptive study conducted for a period of one year from

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After collection, the container labelled with the date and patient's profile. A correctly completed request form must accompany each specimen. Then the specimens will be processed for routine examinations by grossing, proper sectioning, fixation, paraffin blocking, microtome cutting and then examined after Haematoxylin and Eosin (H&E) staining. Patient's age, sex, organ and histopathological findings etc. were taken as variables. The data were analysed using software statistical program for social sciences (SPSS).

Results

During one year period, One thousand three hundred and twenty nine (1329) specimens were analysed. The results are shown in the following tables and figures. The mean age of patients was 42.28±1.68 years which are shown in table 1.

Table-1. Age distribution of the patients (n=1329)

| Age in years	Number of cases	Percentage
0- 9 yrs	23	1.7
10-19 yrs	70	5.3
20-29 yrs	176	13.2
30-39 yrs	214	16.1
40-49 yrs	275	20.7
50-59 yrs	297	22.3
60-69 yrs	170	12.8
70 yrs and above	104	7.8
Total	1329	100.0

Mean age [Male-Female combined] = 42.28±1.68 yrs.

Mean age [Male] = 47.01±1.92 yrs.

Mean age [Female] = 42.16±1.43 yrs.

Male : Female = 1:1.29

Among the 1329 cases, male cases were 580 (43.6%) and female cases were 749 (56.4%) which in figure 1.
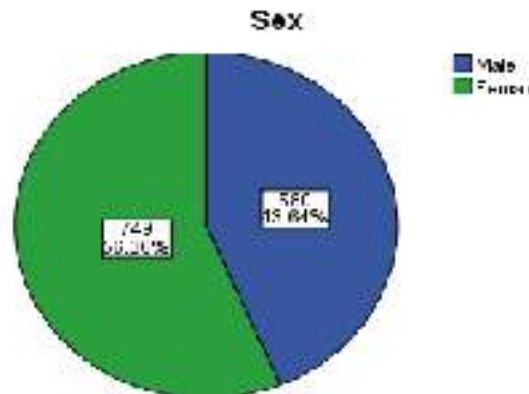
Figure 1: Sex distribution.

The significant diagnostic findings was malignancy comprising 444 (33.4%) cases. Other findings were benign 226 (17.0%) cases, precancerous 29 (2.2%), inflammatory 481 (36.2%), tuberculosis 14 (1.1%), suppurative lesion 12 (.9%) and 25 (1.9%) were inadequate for diagnosis. These were shown in Table 2.

Table 2: Histopathological diagnosis of biopsy samples (n=1329)

Diagnosis	Traits	Male	Female	Total
Malignancy	Count	215	229	444
	Percentage	48.4%	51.6%	100.0%
	% of Total	16.2%	17.2%	33.4%
Benign tumour	Count	83	143	226
	Percentage	36.7%	63.3%	100.0%
	% of Total	6.2%	10.8%	17.0%
Precancerous	Count	10	19	29
	Percentage	34.5%	65.5%	100.0%
	% of Total	.8%	1.4%	2.2%
Inflammation	Count	203	278	481
	Percentage	42.2%	57.8%	100.0%
	% of Total	15.3%	20.9%	36.2%
TB	Count	8	6	14
	Percentage	57.1%	42.9%	100.0%
	% of Total	.6%	.5%	1.1%
Inadequate for dx	Count	11	14	25
	Percentage	44.0%	56.0%	100.0%
	% of Total	.8%	1.1%	1.9%
Others	Count	43	55	98
	Percentage	43.9%	56.1%	100.0%
	% of Total	3.2%	4.1%	7.4%
Suppurative lesion	Count	7	5	12
	Percentage	58.3%	41.7%	100.0%
	% of Total	.5%	.4%	.9%
Total	Count	580	749	1329
	Percentage	43.6%	56.4%	100.0%
	% of Total	43.6%	56.4%	100.0%

Among the cases, commonly affected age group is 40-60 years which are shown in figure 2.
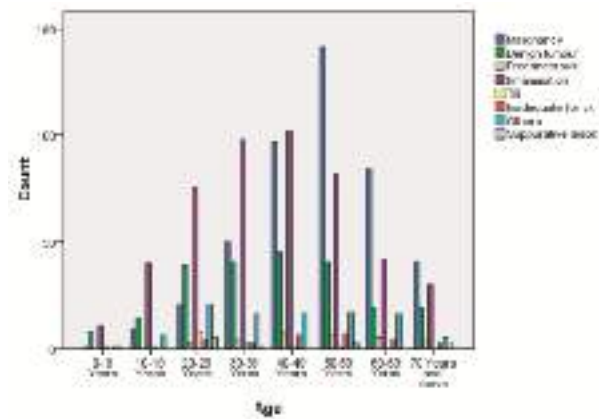
Figure 2: Distribution of diseases with respect to age group.

In relation to system, commomly involved organ is GIT & female genitalia which are shown in table 3.

Table 3: Histopathological diagnosis according to different systems.

Diagnosis	Malignant	Benign	Preca	Inflam	TB	Inadeq	Other	Supp	Total
Oral cavity	22	7	6	8	0	2	0	0	**45**
	48.9%	15.6%	13.3%	17.8%	.0%	4.4%	.0%	.0%	100.0%
GIT	123	20	6	91	3	11	22	2	**278**
	44.2%	7.2%	2.2%	32.7%	1.1%	4.0%	7.9%	.7%	100.0%
GB	5	4	0	144	0	0	0	0	**153**
	3.3%	2.6%	.0%	94.1%	.0%	.0%	.0%	.0%	100.0%
Appendix	0	4	0	34	0	0	1	0	**39**
	.0%	7.7%	0.0%	87.2%	.0%	.0%	2.6%	.0%	100.0%
LN	96	0	0	46	5	2	6	0	**155**
	61.9%	0.0%	0.0%	28.4%	3.2%	1.3%	3.9%	.0%	100.0%
Breast	65	29	6	3	0	4	5	1	**113**
	57.5%	25.7%	5.3%	2.7%	.0%	3.5%	4.4%	.9%	100.0%
Male genitalia	16	34	0	1	0	0	3	1	**55**
	29.1%	61.8%	.0%	1.8%	.0%	.0%	5.5%	1.8%	100.0%
Female genitalia	52	70	11	61	0	6	28	2	**230**
	22.6%	30.4%	3.9%	26.5%	.0%	2.6%	13.0%	.9%	100.0%
Urinary system	29	2	0	19	1	0	15	1	**67**
	43.3%	3.0%	.0%	28.4%	1.5%	.0%	22.4%	1.5%	100.0%
Skin & soft tissue	18	30	0	69	4	0	9	5	**135**
	13.3%	22.2%	.0%	51.1%	3.0%	.0%	6.7%	3.7%	100.0%
Cardio-resp	1	1	0	0	0	0	3	0	**5**
	20.0%	20.0%	.0%	.0%	.0%	.0%	60.0%	.0%	100.0%
Nervous system	7	14	0	0	0	0	1	0	**22**
	31.8%	63.6%	.0%	.0%	.0%	.0%	4.5%	.0%	100.0%
Thyroid & salivary	4	3	0	0	0	0	0	0	**7**
	57.1%	42.9%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
Bone	6	8	0	7	1	0	3	0	**25**
	24.0%	32.0%	.0%	28.0%	4.0%	.0%	12.0%	.0%	100.0%
Total	**444**	**226**	**29**	**481**	**14**	**25**	**98**	**12**	**1329**
	33.4%	17.0%	2.2%	36.2%	1.1%	1.9%	7.4%	.9%	100.0%

Discussion

This histopathology based study showed that malignant lesion is more common in biopsy specimen. One of the previous study of Md. Tahminur Rahman et al showed that out of total 399 samples, 37(9.3%) were malignant, 236 (59.1%) were benign, 6 (1.5%) were premalignant, 115 (28.8%) were inflammatory and 5 (1.3%) were inadequate for diagnosis. The common sites of malignancy were oral cavity 15% followed by GIT 2.5% and skin 9.8%. The mean age was 54.86 years and M:F was 1:2. This study also revealed that in breast lesion 92.3% were benign and 7.7% were malignant[2]. Some other study also showed almost similar findings[3-5].

Our present study showed that among the total 1329 samples, 444 (33.4%) cases were malignant followed by 226 (17.0%) were benign, 29 (2.2%) were premalignant, 481 (36.2%) were inflammatory and 25 (1.9%) were inadequate for diagnosis. The common site of malignancy was GIT (27.7%) followed by lymph node (21.6%) and oral cavity (14.6%). The mean age was 42.28±1.68 years and M:F was 1:1.29. In breast lesion 57.5% were malignant and 25.7% were benign. This study was not similar to some parameters of previous similar study[2,3,4,5]. In our study malignant cases were increased significantly and mean age was also decreased. This difference may be due to facility of operation, location of hospital, cancer treatment facility etc.

Another study of lymph node biopsy by Mousumi Ahmed et al showed that out of 537 lymph node biopsy cases, 9.12% were metastatic, 5.03% were Non Hodgkin lymphoma, 3.91% were Hodgkin lymphoma, 46.18% were non-specific inflammatory and 33.15% were tuberculosis[6]. Findings of this study differed from present study, as here metastatic cases (49.03%) lesion was the common lesion followed by non-specific inflammation (28.4%) and Non Hodgkin lymphoma (10.32%).

In another study in Nigeria, Thomas Jo et al study showed in 1153 lymph node biopsy cases 35.5% had malignant (either primary or metastatic), 37% were non-specific inflammatory and 27.7% had granulomatous inflammation[7]. This also differed from our study because here malignancy in lymph node (both primary and metastatic) was 61.9%.

A study of Darnal HK et al in Malaysia found that the commonest findings of lymph node in adults was malignancy 47% followed by chronic non-specific

lymphadenitis (20%) and granulomatous lymphadenitis (9%) where in children chronic non-specific lymphadenitis was the commonest (46%) followed by and granulomatous lymphadenitis (21%) and malignancy (14%)[8]. Findings of this study was quite similar to present study, here malignancy cases were also higher (61.9%) in lymph node than previous study.
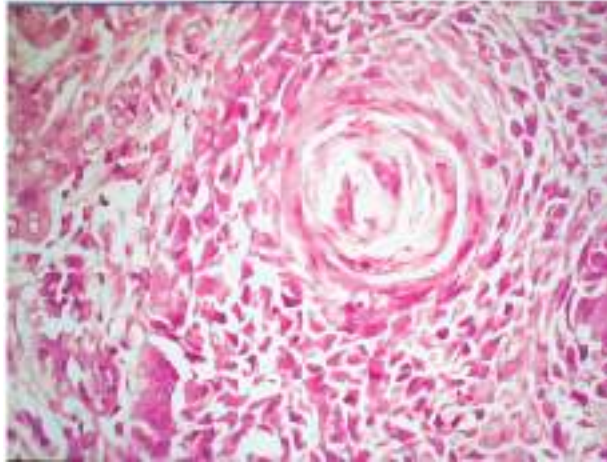
Figure 3: Squamous cell carcinoma (H&E × 40).

Conclusion

This study reflects the malignant cases are increasing day by day. So any abnormal growth should be sent for histopathological examination for early diagnosis as well as to exclude malignancy. It may be helpful for Pathologist, Surgeons and Clinicians in future for further study in Bangladesh.

Acknowledgement

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