Original Article

Histopathological Study of Pathological Specimens of Various Organs in a Tertiary Care Hospital in Bangladesh

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Abstract

This retrospective study of histopathological specimens was done at the Department of Pathology of Rajshahi Medical College, Bangladesh, from July 2019 to June 2020, emphasizing challenges and diagnosis outcomes. Data obtained from their case notes included age at admission, the site from where the specimens were collected, and histopathological diagnosis.

Out of the 2026 histopathology samples, chronic cervicitis constitutes about 50% of the cases. Serous cystadenoma (about 1/4th cases) was common among ovarian pathology. 54.16% of the breast pathology exhibited Invasive ductal carcinoma. Reactive follicular hyperplasia and lymphoma constitute 49.44% of the lymph node pathology. About 80% of the gall bladder pathology was chronic cholecystitis, and metastatic adenocarcinoma was the commonest pathology involving the liver. Squamous cell carcinoma constitutes about 40% of the skin pathology. Osteosarcoma, osteochondroma, and giant cell tumor were the common pathologies involved in bones. Transitional cell carcinoma constitutes about 45% of urinary bladder pathology, and renal cell carcinomas were the commonest pathology of the kidney. Adenocarcinoma constitutes about 45 % of stomach pathology, 28% of small intestine pathology, and 14% of large intestine pathology.

Histopathological specimens at the pathology Rajshahi Medical College department with a wide range of pathologies are a major problem. From this study necessity of screening programs for early cancer detection appeared as a time-demanding issue.

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Introduction

Histopathology refers to examining the prepared tissue of a surgical specimen under the microscope to observe the appearance of diseased cells in microscopic detail.[1] The histopathologists use hematoxylin and eosin-stained slides to examine tissue growth patterns and cell morphology.[2] Most commonly used, eosin is an acidic coloring chemical that stains basic structures, i.e., negatively-charged cytoplasm, and hematoxylin is basic and stains the acidic portion of the cell (nucleus).[3] Though it is an old practice, histopathology reserved one of the substantial sections of disease studies of the medical field in the modern scientific era. Currently available developed technologies, i.e., multiplex immunohistochemistry, immunofluorescence,

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brain mapping, neuroimaging studies, and artificial neuronal networking, make the computerized histomorphometric diagnosis and prognosis possible.[4] The major ailment around the world is cancer and is considered a chronic disease of the age.[5] Numerous death rates owning to cancer have been reported in humans, and its rate is increasing with time.[4] Cancer is the second leading cause of death globally and is responsible for about 10 million deaths per year. Globally, about 1 in 6 deaths is due to cancer.[6] Approximately 70% of deaths from cancer occur in low- and middle-income countries.[7] Around one-third of deaths from cancer are due to tobacco use, high body mass index, alcohol use, low fruit and vegetable intake, and lack of physical activity.[7] Tobacco use is the most important risk factor for cancer and is responsible for approximately 25% of cancer deaths.[8] Cancer is a generic term for many diseases that can affect any part of the body with the rapid creation of abnormal cells that grow beyond their usual boundaries. This can then invade adjoining parts of the body and spread to other organs resulting in death.[6] Possible signs and symptoms include a lump, abnormal bleeding, prolonged cough, unexplained weight loss, and a change in bowel movements.[7] The most common causes of cancer death in 2020 were: (i) lung (1.80 million deaths); (ii) colon and rectum (935 000 deaths); (iii) liver (830 000 deaths); (iv) stomach (769 000 deaths); and (v) breast (685 000 deaths). Approximately 30-50% of cancers can currently be prevented by avoiding risk factors and implementing existing evidence-based prevention strategies.[9] Early detection of cancer, appropriate treatment and care of patients who develop cancer can also reduce cancer burden. If diagnosed early and treated appropriately, many cancers have a high chance of cure.[10, 11] A correct cancer diagnosis is mandatory for appropriate and effective treatment because every cancer type requires a specific treatment regimen.[12]

Materials and methods:

This retrospective study was conducted in the Department of Pathology, Rajshahi Medical College, and Rajshahi for one year, from July 2019 to June 2020. All the biopsy specimens sent to the pathology department during this study period included in the study as the sample. Clinical data about age, site of specimens, and histological diagnosis were recorded retrospectively. All the specimens were fixed in 10% formalin, and tissue sections were taken for processing and paraffin block preparation. The paraffin blocks were sectioned and stained by H & E stain. A microscopical examination was performed for histopathological diagnosis. Histopathological diagnoses were analyzed along with type, frequency, and percentage of pathology. The histological grade of carcinoma was reported with frequency and percentage.

Results:

Of the 2026 histopathology samples, 641 (31.64%) were colposcopic cervical pathology specimens, 272 (13.42%) were GIT specimens. 179 (8.83%), 133 (6.56%), 74 (3.65%), 30 (1.48%), and 72 (3.35%) were uterine, ovary, endometrium, female genital and breast specimens, respectively. Hepatobiliary, bones, skin, lymph node, urinary system, and male genital specimens constitute the 74 (3.65%), 69(3.40), 136 (6.71%), 91 (4.49%), 41 (2.02%), and 62 (3.06%) respectively (Table II). Maxillofacial, salivary gland, thyroid, eye and momentum specimens constitute the 62 (3.06%), 32 (1.57%), 17 (0.83%), 20 (0.98) and 21 (1.03%) specimens respectively. Out of 2026 patients, about 50% of the patients were in their 3rd to 5th of life. About one-fifth (21.17 %) of patients were < 30 years old, and about 28.32% study population were >50 years old. Age ranges of the study population differ from 4 days to 104 years. (Table I). Regarding cervical pathology, more than half, 365 specimens (56.50%) were Chronic Cervicitis (Table III). In this study, Chronic Cervicitis with squamous metaplasia and Invasive squamous cell carcinoma became the 2nd, 16.39% (105 specimens), and 3rd, 13.42% (86 specimens) most pathology involving the cervix (Table III). Cervical polyp, endocervical, and leiomyomatous constitute 6.39% and 1.57% of the specimen's respectively (Table III). Among uterine pathology, most of the specimens of this study include more than one pathology, and Chronic Cervicitis,

Leiomyoma, adenomyosis, basal Endometrium, and hydatidiform mole constitute 47.43%, 33.20%, 34.38%, 15.81%, and 11.46%, respectively (Table IV). In ovarian pathology, serous cystadenoma appeared as a prominent figure, and it was 26.13%. Benign hemorrhagic cyst, mature cystic teratoma, mucinous cystadenoma constitute 13.07%, 10%, ad 10% of the ovarian study population (Table V). Invasive ductal carcinoma constitutes 54.16% of the breast pathology; fibroadenoma, fibrocystic change, and TB include 26.38%, 5.55%, and 2.77% of the breast pathology study sample, respectively (Table

VI). Reactive follicular hyperplasia, lymphoma, tuberculosis, and various metastatic carcinomas constitute 26.57%, 23.07%, 16.48%, and 19.78% of the lymph node study sample (Table VII). Regarding bony pathology, osteomyelitis, ameloblastoma, and osteochondroma constitute 13.03%, 11.59%, and 10.14% of the bony pathology (Table VII). The study showed that more than 55% of the stomach pathology was carcinoma; amongst them, adenocarcinoma constitutes 45 % and the common carcinoma among the small and large intestine carcinoma (Table IX).

Table I. Distribution of patients by demographic characteristics (n = 2026)

Demographic characteristics	Frequency	Percentage
Age		
< 30	429	21.17
30 – 39	507	25.02
40 – 49	516	25.46
50 – 59	268	13.22
≥ 60	306	15.10
Sex		
Male	445	21.96
Female	1557	78.03
Total	2026	100%

Range = (4 days – 104 years) years

Table II: Distribution of patients by pathology involving different organs (n = 2026)

Cervical pathology	Frequency	Percentage
Cervical pathology	641	31.64
Uterine pathology	253	12.48
Ovarian pathology	133	06.56
Breast pathology	72	03.35
GIT pathology	272	13.42
Urinary system pathology	41	02.02
External female genital pathology	30	01.48
Hepatobilliary system pathology	74	03.65
Male genital organ pathology	62	03.06
Bones pathology	69	03.40
Skin pathology	136	06.71
Lymph node pathology	91	04.49
Maxillofacial pathology	62	03.06
Thyroid pathology	17	00.83
Salivary gland pathology	32	01.57
Omentum pathology	21	01.03
Eye pathology	20	00.98

Table III: Distribution of patients by Cervical pathology (n = 641)

Cervical pathology	Frequency	Percentage
Chronic cervicitis	365	56.50
Chronic cervicitis with squamous metaplasia	105	16.39
Invasive squamous cell carcinoma	86	13.42
Polyp endocervical + leiomyomatous	51	07.95
Intraepithelial neoplasia (CIN I+ CIN II + CIN III)	28	04.36
Adenocarcinoma + clear cell carcinoma	06	00.93
Total	641	100%

Table IV: Distribution of patients by uterine pathology (n = 253)

Uterine pathology	Frequency	Percentage
Chronic cervicitis	120	47.43
Chronic cervicitis with squamous metaplasia	08	03.16
Carcinomas	15	05.92
Polyp endocervical + leiomyomatous	13	05.13
Intraepithelial neoplasia (CIN I + CIN II + CIN III)	15	05.92
Leiomyoma	84	33.20
Adenomyosis	87	34.38
Basal endometrium	41	16.20
Retained product of conception	22	08.69
Hydatidiform mole	29	11.46
Others	20	07.90
Total	253	100%

Table V. Distribution of patients by ovary pathology (n = 133)

Ovary pathology	Frequency	Percentage
Cyst (luteal+ benign haemorrhagic+ follicular)	43	33.07
Mature cystic teratoma	14	10.76
Serous cyst adenoma	42	31.57
Mucinous cyst adenoma	13	9.77
Adenocarcinoma (mucinous cyst + serous cyst)	11	08.46
Tumour (krukenberg+ brenner+ sertoli cell+ fibroma)	06	04.61
Hemorrhagic corpous lutium	04	3.07
Total	133	100%

Table VI. Distribution of patients by breast pathology (n = 72)

Breast pathology	Frequency	Percentage
Invasive ductal carcinoma	39	54.16
Fibroadenoma	19	26.38
Fibrocystic change	04	05.55
Nonspecific chronic inflammation with suppuration	06	08.33
TB	04	05.55
Invasive lobular carcinoma	02	02.77
Total	72%	100%

Table VII. Distribution of patients by hepatobilliary pathology (n = 74)

Hepatobilliary pathology	Frequency	Percentage
Gall bladder: Chronic cholecystitis	61	82.43
Adenocarcinoma	05	06.75
Adenomatous polyp	02	01.75
Liver : Metastatic adenocarcinoma	02	02.70
Benign cystic lesion	02	02.70
Hydatid cyst	01	01.35
Mesenchymal hemartoma of liver	01	01.35
Total	74	100%

Table VIII. Distribution of patients by Lymph Node pathology (n = 91)

Lymph Node pathology	Frequency	Percentage
Reactive follicular hyperplasia	24	26.37
Lymphoma	21	23.07
Tuberculosis	15	16.48
Nonspecific chronic inflammation	13	14.28
Metastatic ductal carcinoma	05	05.49
Metastatic adenocarcinoma	06	06.59
Metastatic Squamous cell carcinoma	02	02.19
Metastatic undifferentiated Carcinoma	05	05.49
Total	91	100%

Table IX. Distribution of patients by   Urinary pathology (n = 41)

Urinary pathology	Frequency	Percentage
Kidney : Renal cell carcinoma	07	17.04
Nephroblastoma	04	09.75
Small cell carcinoma	01	02.43
Hydronephrosis	03	07.21
Giant cell tumour	02	04.87
Urinary bladder: Transitional cell carcinoma	19	46.34
Squamous cell carcinoma	03	07.21
Urothelial carcinoma	02	04.87
Total	41	100%

Table X. Distribution of patients by Bony pathology (n = 69)

Bone pathology	Frequency	Percentage
Osteomyelitis	09	13.04
Ameloblastoma	08	11.59
Sarcoma (osteo+ Ewing's+fibro)	13	18.84
Osteochondroma+ osteoma	10	14.49
Giant cell tumour + ossifying fibroma	09	13.04
Tuberculosis	05	07.24
Haemangioma + bone cyst	10	14.49
Undifferented malignant tumour	05	07.24
Total	69	100%

Table XI. Distribution of patients by Skin pathology (n = 136)

Skin pathology	Frequency	Percentage
Squamous cell carcinoma	55	40.44
Nonspecific chronic inflammation with suppuration	27	19.85
Malignant melanoma	07	05.14
Carcinoma (basal cell + basosquamous)	08	04.41
Fibroepithelial polyp	18	13.23
TB	09	06.61
Capillary hemangioma	10	07.35
Seborrhetic keratosis	02	01.47
Total	136	100%

Table XII. Distribution of patients by Maxillofacial with salivary gland pathology (n = 94)

Maxillofacial with salivary gland pathology	Frequency	Percentage
Squamous cell carcinoma	31	32.97
Fibro epithelial polyp	07	07.44
Capillary hemangioma	18	19.14
Fibroma	06	06.38
Pleomorphic adenoma	21	22.34
Carcinoma (mucoepidermoid+ adenoid cystic)	07	07.44
Mucocele with suppuration	04	04.25
Total	94	100%

Table XIII. Distribution of patients by Thyroid pathology (n = 17)

Thyroid pathology	Frequency	Percentage
Papillary carcinoma	10	63.63
Follicular adenoma	02	9.09
Follicular thyroid cancer	02	
Multinodular goiter	02	18.18
Lymphocytic thyroiditis	01	9.09
Total	17	100%

Table XIV. Distribution of patients by Eye pathology (n = 20)

Eye pathology	Frequency	Percentage
		45.00
Carcinoma(mucoepidermoid+ squamous cell+ basal cell+ meibomian gland)	09	
Cyst (epidermal inclusion+ dermoid)	03	15.00
Squamous papilloma +lipoma+hemangioma	05	25.00
Pterygium+ chalazion	03	15.00
Total	20	100%

Table XV. Distribution of patients by Male & Female genital pathology (n = 62+30)

Male genital pathology	Frequency	Percentage
Prostate: nodular hyperplasia	30	48.38
Adenocarcinoma	13	20.96
Penis : invasive squamous cell carcinoma	04	06.45
Testis : nonspecific chronic inflammation	06	09.67
Embryonic carcinoma	02	03.22
TB	03	04.83
Scrotum : nonspecific chronic inflammation	03	04.83
Fibroepithelial polyp	01	1.61
Vagina: squamous papilloma	06	20.00
Malignant melanoma	04	13.33
Squamous cell carcinoma	13	43.33
Papillary serous adenocarcinoma	03	10.00
Papillary adenoma	04	13.33

Table XVI. Distribution of patients by GIT pathology (n = 57+ 50+165+ 21)

Site	Diagnosis	Frequency	Percentage
Stomach & Esophagus 57 cases	Nonspecific chronic gastritis	22	38.59
	Adenocarcinoma.	26	45.61
	Early gastric carcinoma	01	01.75
	Infiltrating mucinous adenocarcinoma	03	05.26
	Early signet cell carcinoma	01	01.75
	Squamous cell carcinoma(esophagus)	04	07.01
Small intestine 50 cases	Nonspecific chronic inflammation	26	52.00
	Adenocarcinoma.	15	30.00
	TB	06	12.00
	Gastrointestinal stromal tumour	01	02.00
	Benign hemorrhagic cyst	02	04.00
Large intestine 165 cases	Nonspecific chronic inflammation	32	19.39
	Adenocarcinoma.	22	13.33
	Squamous cell carcinoma	03	01.81
	Infiltrating mucinous adenocarcinoma	05	03.03
	Ganglion cell present	03	01.81
	Tuberculosis	05	03.03
	Hirschprung's diseases	15	09.09
	Benign adenomatous polyp	04	02.42
	Acute appendicitis	76	46.06
Omentum 21 cases	Metastatic adenocarcinoma	13	61.90
	Metastatic undifferentiated carcinoma	03	14.28
	Benign cystic lesion	05	23.80

Discussion

The most common histopathological diagnosis of the present study among 641 cervical lesions was chronic cervicitis comprised of 365 cases (56.50%), similar to the study conducted by Saravanan et al.[13] 58.6%. In the present study, cervical cancer accounted for 12.94% of cases of all cervical lesions, which were comparable to the study done by Saravanan et al.[13] Squamous cell carcinoma was the commonest of the invasive lesions in this study, accounting for 93.47% of the total invasive carcinoma, which was comparable with the study of Shruthi et al.[14] (2014). Leiomyoma accounting for 33.20% of all cases in histopathology of the uterus, which correlates with findings by Gupta et al.[15]. In this study, 51.54% of the ovarian lesions were benign, and 10.77 % of the ovarian lesion were malignant, and this finding

(59.2%) is similar to the study done by Ahmad et al.[12] in Pakistan. Among benign tumors, serous cystadenoma was a common finding (31.57%) followed by benign hemorrhagic cyst (13.07%) and both mature teratoma & Mucinous cystadenoma (9.77%), which is similar to the findings found by Rathi et al.[16] This study found fibroadenoma (26.38%) in benign and infiltrating duct carcinoma (54.16%) in malignant lesions as the common findings among breast pathology, and Choksi et al.[17] also published similar reports. 61 (82.43%) cases among the gall bladder pathology were chronic cholecystitis, and this finding was in concordance with the studies conducted by Siddiqui et al.[18] In this study, metastatic adenocarcinoma was the most frequent observation in the lever, which is similar to a study done by Agrawal et al.[19] in India. Osteosarcoma, osteochondroma, and Giant cell tumor were the

common pathologies involved in bones. Non-neoplastic lesions (55%) were common than neoplastic lesions (45%), and these results were consistent with Atiqur et al.[20] Lymphoma constitutes 23.07% of this study's lymph node pathology, which was similar to the study done by Mohan et al.[21] Renal cell carcinoma (66.66%) was observed in the present studies that are similar to the study done by Popat et al.[22] (70%). Transitional cell carcinoma accounted for about 80% of all tumors, while squamous cell carcinoma formed about 7%, which was exactly similar to Hasan et al.[23] In our study; among benign salivary gland tumors, pleomorphic adenoma was the most common benign tumor. Mucoepidermoid carcinoma was the most common among malignant tumors. These findings are similar to the findings observed by Solange et al.[24] Papillary carcinoma was the most common malignant thyroid lesion. It constituted 83.33% % of the malignant lesions in our study, similar to the study of Gupta et al.[25] The majority of the prostatic lesions were benign (about 70%), followed by carcinoma (30%) which matches the findings of the study done by Deshmukh et al.[26] Adenocarcinoma was observed as the most common neoplastic lesion of the small and large intestines in this study, compared with the study conducted by Nanavati et al.[27] The most common lesion in gastric biopsy in this study was chronic gastritis, similar to a study done by Hussain et al.[28]

Conclusion:

Department of Pathology of Rajshahi Medical College deals with histopathological specimens with a wide range of pathologies. Screening programs for early cancer detection is a time-demanding issue, especially cervix, breast, and GIT. Advanced technologies i.e., multiplex immunohistochemistry, immunofluorescence should be used along with histopathology to enrich diagnostic armamentarium.

References

1. Bancroft JD, Stevens A. Theory and Practice of Histological Techniques. Edinburgh: Churchill-Livingstone; 1977.p. 129.

2. Sikandar A, Cheema AH, Adil M, Younus M, zaman A, Tipu MY, et al. Ovine paratuberculosis- A histopathological study from Pakistan. The Journal of Animal and Plant Science. 2013; 23(3): 749-753.

3. Young B, Woodford P, O'Dowd G. Wheater's Functional Histology E-Book: A text and colour atlas. 6th Rev. ed. Elsevier Health Science. Churchill Livingstone, London; 2013.p 464.

4. Culling CFA. Handbook of Histopathological and Histochemical technique: Including Museum Techniques. Oxford, United Kingdom: Butterworth-Heinemann; 2013.

5. Maters CD, Loncar D. Projection of global mortality and burden of diseases from 2002 to 2030. PLoS Medicine. 2006;3(11): e 442

6. Ferlay J, Ervik M, Lam F, Colombet M, Mery L, Piñeros M, et al. Global Cancer Observatory: Cancer Today. Lyon: International Agency for Research on Cancer; 2020 (https://gco.iarc.fr/today, accessed February 2021).

7. Wild CP, Weiderpass E, Stewart BW, editors. World Cancer Report: Cancer Research for Cancer Prevention. Lyon: International Agency for Research on Cancer; 2020.

8. GBD results tool. Seattle (WA): Institute for Health Metrics, University of Washington; 2020 (http://ghdx.healthdata.org/gbd-results-tool, accessed February 2021).

9. Assessing national capacity for the prevention and control of noncommunicable diseases: report of the 2019 global survey. Geneva: World Health Organization; 2020.

10. Martel C, Georges D, Bray F, Ferlay J, Clifford GM. Global burden of cancer attributable to infections in 2018: a worldwide incidence analysis. Lancet Glob Health. 2020; 8(2):e180-e190.

11. Global Initiative for Cancer Registry Development. Lyon: International Agency for Research on Cancer; 2020 (https://gicr.iarc.fr/about-the-gicr/the-value-of-cancer-data/, accessed February 2021)

12. Ahmad Z, Kayani N, Hasan SH, Muzaffar S, Gill MS. Histological pattern of ovarian neoplasm. J Pak Med Assoc 2000; 50: 416-9.

13. Saravanan S, Arnold J, Arul P. Histomorphological Spectrum of lesions of the cervix, a Retrospective Study in a Tertiary Care Hospital. J Evol Med Dent Sci. 2015; 4(59): 10326–10329.

14. Shruthi PS., Kalyani R, Kai L. Narayanaswamy. Clinicopathological correlation of cervical carcinoma: A tertiary hospital-based study. Asian Pac J Cancer Prev. 2014; 15(4):1671-1674.

15. Gupta G, Kotasthane DS, Kotasthane VD. Hysterectomy: A Clinico-Pathological Correlation of

500 Cases. The Internet Jour of Gyneco and Obst. 2010; 14(1). DOI: 10.5580/141b.

16. Rathi V et al. Study Of Histopathological Spectrum Of Ovarian Lesions, Vikram University, Ujjain, 2005. 10. Pilli GS, Suneeta KP, Dhaded AV, Yenni VV. Ovarian tumours: a study of 282 cases. J Indian Med Assoc 2002; 100: 420, 423-4, 447.

17. Chokshi M, Mehta N. Cytological study of palpable breast lumps (407 cases) with their histological correlation. Int j med sci public health 2014; 3(2): 181-185.

18. Siddiqui FG, Memon AA, Abro AH, Sasol NA, Ahmed L. Routine histopathology of gallbladder after elective cholecystectomy of gallstones; waste of resources or justified act? BMC Surgery. 2013;13(26):1-7

19. Neekita Shriram Agrawal, Banyameen Iqbal, Amardeep Ajinath Patil, Kunjal Mukesh Karia and Harsh Kumar. Study to Evaluate the Histopathological Spectrum of Hepatic Lesions in Liver Biopsies in a Tertiary Care Hospital. Annals of Pathology and Laboratory Medicine. 2018; Vol. 5: Issue 3, March.

20. Atiqur RM, Mamun ABM. Histopathological evaluation of lymph node biopsies: A hospital-based study. J Enam Med Col 2012; 2(1): 8-14.

21. Mohan A, Reddy MK, Phaneendra BV, Chandra A. Aetiology of peripheral lymphadenopathy in adults: analysis of 1724 cases seen at a tertiary care teaching hospital in Southern India. Natl Med J India 2007; 20(2): 78-80.

22. Popat VC, Kumar MP, Udani D, et al: A Study on Culprit Factors Ultimately Demanding Nephrectomy. The Internet Journal of Urology 2010; 7(1): 4-8

23. Hasan MS, Imtiaz F. Frequency of transitional cell carcinoma in local suburban population of Karachi. J Liaquat Uni Med Health Sci 2007; 2: 83–5.

24. Solange SL, Andrea FS, Rivadaxia FB, Roseana DA. Epidemiologic profile of salivary gland neoplasms: analysis of 245 cases. Rev Bras Otorhinolaryngo 2005: 71(3): 335-340.

25. Gupta A, Jaipal D, Kulhari S, Gupta N. Histopathological study of thyroid lesions and correlation with ultrasonography and thyroid profile in western zone of Rajasthan, India. Int J Res Med Sci. 2016; 4:1204-1208

26. Deshmukh BD, Ramteerthakar NA, Sulhyan KR. Histopathological study of lesions of prostate- A five year study. Int J Health Sci Res. 2014; 4:1-9.

27. Nannavati MG, Parikh JH, Gamit KS, Modh SD. A Histopathological Study of Intestinal Lesions. IJSR. 2014; 3(9):326-330

28. Hussain SI, Reshi R, Akhter G, Beigh A. Clinico histopathological study of upper gastrointestinal tract endoscopic biopsies. Int J of Cur Res Rev. 2015 Aug 15; 7(16):78.

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