

PATHOLOGICAL FINDINGS IN LAPAROSCOPIC SLEEVE GASTRECTOMY SPECIMENS IN TEACHING HOSPITAL OF LAHORE

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ABSTRACT

Objectives: Pathological findings in laparoscopic sleeve Gastrectomy specimens.

Method: Retrospectively demographic data and biopsy report of patient who go through surgical procedure of laparoscopic sleeve gastrectomy since 1st Jan 2016 to May 2024 were obtained from clinical laboratory of Doctor's Hospital Lahore.

Result: A total of 101 patients who go through surgical procedure of laparoscopic sleeve gastrectomy. Between these patients, 53 (52.5%) were female along with 48 (47.5%) were male. Age of patient varies from 15 to 62 years and the majority of the patients were in 41 to 50 years of age. The Histological sections of specimens revealed that lymphoplasmacytic infiltrate in connective tissue propria were the most common histological finding (52,51.5%) follow with no remarkable histopathological findings (22,21.8%). The other pathology found were H-pylori induced gastritis (33,32.7%) and active gastritis (10,9.9%).

Conclusion: Our findings reveal stand in need of routinely performing biopsy reporting of gastrectomy specimens. The study also concluded lympho-plasmocytic infiltrate and H-pylori as the other most common pathological finding.

Key words: Gastrectomy specimen, Microscopic pathological findings

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INTRODUCTION

With the enhancement in worldwide global challenges, severe increase in weight gain has become a worldwide one of the biggest health issue and problem, and its frequency rate is at peak and top in the Middle East, especially in females.¹ Obesity is included in the most common chronic illness or diseases in our region. Weight loss or gastric surgery is a therapeutic treatment uses for moderate to severely obese patients, where other precautions like lifestyle/medication has not been beneficial.² Simple low fat free or fat free diets have less

benefit to stop the advancement of morbid obesity. That's why; bariatric laparoscopic surgery has considered the only plan of choice. As a result, with the raise in the frequency of severe over-weight in nations, with the passage of time there is increase in number of this special type surgery. In such surgery (LSG), the resection of majority of the stomach is done.³ Most of the time It is assumed and considered that like other resection specimens, gastrectomy biopsy specimen taken in weight loss surgery would be of no pathology i.e. will be free of any pathology.⁶ Nevertheless, current preconception has not been proven with microscopic examination of LSG biopsy material. In spite of fact there is deficiency in the researched data on microscopic findings of stomach biopsy tissue from morbid obese person.⁴ Our study focused and aimed to evaluate and assess the consequences and importance of histopathological biopsy reporting on gastric sleeve

surgery specimens by revealing the incidence and occurrence of different pathological findings.

METHOD

Our descriptive study of retrospective type involved 101 patients who have done LSG for sever weight gain (Morbid Obesity) at surgical unit of Doctor's Hospital Lahore, Pakistan, between January 1, 2016 to May 2024. All Gastric biopsy material that reached the laboratory center were counted in this study. We backdated collected biopsy record and scrutinize patient record and microscopic examination reports through the patient laboratory information system of the hospital. The individual demographic data such as age and sex. The biopsy reports included microscopic examination findings and the final definite diagnosis. IBM SPSS, version 22 (IBM Corp., Armonk, NY, USA) was used for all statistical analyses. Variables included age in years, sex and microscopic examination. We calculated the frequencies and percentages of these variables.

RESULTS

This study evaluated and examined 101 patients report. There were 53 out of 101(52.5%) female patients and 48 out of 101(47.5%) were male patient. The age of patients ranges from 15 to 62 year. Mostly patients were in the 41–50year age group (31, 30.7%), followed by the 31–40year age group (28,27.7%), 21–3year age group (20, 19.8%), 51–60-year age group (13, 12.9%), and 61–70year age group (2, 2.0%).

Out of 101 patients 86 (85.1%) patients presented in hospital with morbid obesity, 6(5.9%) of patients presented with super obesity and 7 patients out of 101 (6.9%) were presented with cholelithiasis along with morbid obesity.

Gross cross-sectional examinations of surgical biopsy specimens showed that 77 out of 101(76.2%) had focal ulcerated, denuded and erythematous reddish mucosa, whereas 19 (22%) had intact normal mucosa and 2 (2.0%) had autolyzed mucosa

Histological examinations indicated that the majority of 52 out of 101 (51.5%) of specimen had sub-mucosal lymphoplasmacytic infiltrate, 10 (9.9%) had specimen had only plasmocytic infiltrate, 10 (9.9%) specimen had mixed neutrophilic with lymphoplasmacytic infiltrate, 4(4%) had only lymphocytic infiltrate and in last 22 out of 101 (21.8%) specimens had no infiltrate i.e. intact mucosa.

Histological diagnosis was found that 50 (49.5%) of specimen were diagnosed with mild chronic gastritis, 21(20.8%) specimen were diagnosed with moderate and sever gastritis and 11(10.9%) were labeled with active gastritis. No histopathological findings were found in 19(18.8%) specimens.

In the end other most frequent finding were the existence or presence of *H. pylori* in the mucosa and crypts i.e. 34(33.6%) cases out of 101 were positive for *H. Pylori* and 67(66.3%) cases showed no or absence for *H. Pylori*. The age group ranges 41-50 years showed most of the positive cases of *H. Pylori* i.e. 10 cases of total 33 positive *H. Pylori* cases.

SYMPTOMS

	Frequency	Percent	Valid Percent	Cumulative Percent
Missing	1	1.0	1.0	1.0
Morbid obesity	86	85.1	85.1	86.1
Super obesity	6	5.9	5.9	92.1
Cholelithiasis, M O	6	5.9	5.9	98.0
Distended Gall bladder	1	1.0	1.0	99.0
LAP	1	1.0	1.0	100.0
Fatty liver	1	1.0	1.0	100.0
Total	101	100.0	100.0	

PROCEDURE

	Frequency	Percent	Valid Percent	Cumulative Percent
Lap sleeve gastrectomy	90	89.1	89.1	89.1
Lap sleeve gastrectomy, cholecystectomy	11	10.9	10.9	100.0
Total	101	100.0	100.0	

GROSS FINDINGS

	Frequency	Percent	Valid Percent	Cumulative Percent
Missing	3	3.0	3.0	3.0
Intact Mucosa	19	18.8	18.8	21.8
Denuded mucosa	77	76.2	76.2	98.0
Autolyzed mucosa	2	2.0	2.0	100.0
Total	101	100.0	100.0	

PATHOLOGICAL FINDINGS(Microscopic)

	Frequency	Percent	Valid Percent	Cum Percent
Missing	3	3.0	3.0	3.0
Intact Mucosa, No infiltrate	22	21.8	21.8	24.8
Lymphocytic infiltrate	4	4.0	4.0	28.7
Plasma Cell infiltration	10	9.9	9.9	38.6
Lymphoplasmacytic Infiltrate	52	51.5	51.5	90.1
Lymphoplasmacytic and Neutrophilic Infiltrate	10	9.9	9.9	100.0
Total	101	100.0	100.0	

HISTOPATHOLOGICAL DIAGNOSIS

	Frequency	Percent	Valid Percent	Cum Percent
No Histopathological Change	19	18.8	18.8	18.8
Mild Chronic Inactive Gastritis	50	49.5	49.5	68.3
Moderate/Sever Chronic Inactive Gastritis	21	20.8	20.8	89.1
Mild/Moderate Chronic active Gastritis	11	10.9	10.9	100.0
Total	101	100.0	100.0	

H-PYLORI STATUS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Positive	34	33.66	33.66	33.66
Negative	67	66.3	66.3	100.0
Total	101	100.0	100.0	

DISCUSSION

In sever obese patients, after life style changes and medical treatment having no effect, bariatric surgery is a best option of choice. Different studies showed that batriatic surgery is beneficial and worth full in an individual with BMI lies over 30-35kg/m2. ⁴

In this study most of Females gender was founded as overweight patients who underwent LSG (53, 52.5%). Our finding is compatible with the findings found in an Arab Gulf country i.e 73%, a study from Romania i.e 66%, as well as studies by Miller i.e 76% and Clapp et al., 67%.⁵

In our study the age of most of the patients were between 41-50 years (31, 30.7%) which is according to the age mentioned in a study by the clap. ⁶

In our study there were no pathological change in 19(18.8%) samples where as another study conducted by miller showed high percentage of no pathological findings and accounted for 80% of cases. ⁷

Our studies showed high prevalence of chronic gastritis i.e. 71(70%) out of 101 cases and moderate prevalence of active gastritis found in11(10.9%) cases out of 101. These findings were in correlation with a study conducted in Saudi-Arab where chronic gastritis was present in 83.4% and active gastritis is 22.3%.⁸

The most reported histopathological observation in our study of chronic gastritis was lymphoplasmacytic infiltrate which was found in 51.5% of patients and plasma cell infiltrate were 10 (9.9%) which are compatible with a study occurred in Qatarize. 50% showed lymphoplasmacytic infiltrate.⁹

However, the prevalence of H. pylori infection, in the present study was 33.6% which is in line with previous studies in Saudi Arabia. ¹⁰

CONCLUSION

With advancing and enhancing incidence of Obesity worldwide have simultaneously increasing adverse effects on public health. The prevalence of Chronic gastritis has been increased adversely and dangerously in obesity, along with H. pylori-related gastritis too. Our study clearly mentioned and indicated that 49.5% of the patients who had sleeve gastrectomy for severe weight gain also had gastritis of chronic type along with a high percentage (33%) of H. pylori-related gastritis, which alarmed that obesity is a major risk factor for chronic gastritis and H. pylori infection. Pre-operative workup and eradication therapy of infection are necessary, because the stomach is supposed to be pathogens free even if the outcome is not affected in lesser cases. In

future for long lasting effects and follow up further studies are necessary to obtain clinical results.

Ethical Approval: Submitted

Conflict of Interest: Authors declare no conflict of interest.

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AUTHOR’S CONTRIBUTIONS

MR: Conceived Idea, Manuscript Writing, Data Collection

NF: Data Analysis and Interpretation, Final editing

ANA: Manuscript Writing, Data collection

SIR: Data collection, Data Analysis

HFS: Literature Review, Interpretation of Results

AS: Interpretation of Results, Final Discussion