INCIDENCE OF ADHESIONS IN PATIENTS USING LIRAGLUTIDE PRIOR TO LAPAROSCOPIC SLEEVE GASTRECTOMY.

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Background

- The current study objectively identified incidence of adhesions between the stomach and pancreas in laparoscopic sleeve gastrectomy(LSG) patients on Liraglutide(cases group) and off(control group) Liraglutide.
- Evidence was obtained during the intraoperative period of cases showing posterior attachments between the stomach and pancreas.

Methods

- With institutional IRB approval the study was conducted in 218 patients presenting for LSG with 117 patients with prior use of Liraglutide and 101 patients with no Liraglutide use, over a 12 month period from June 2020 to June 2021.
- Inclusion criteria included patients undergoing LSG with or without prior use of Liraglutide, normal upper GI scope prior to surgery.
- Exclusion criteria included patients with prior abdominal surgeries, bariatric surgery revisions, and other known causes of other causes of pancreatitis.
- Using laparoscopy obtained imaging LSG cases adhesions between the posterior stomach and pancreas were identified.

Table 1: Demographics of cases and control groups

Comparison of mean age between the two groups	Cases Mean ± SD	Control Mean ± SD	p value
Age (yrs)	32.44 ± 9.90	28.23 ± 8.48	0.001*

Comparison of age group distribution between the two groups	Cases Frequency	Cases %	Control Frequency	Control %	p value
16 - 20 yrs	16	13.7%	17	16.8%	0.050
21 - 30 yrs	41	35.0%	49	48.5%	
31 - 40 yrs	37	31.6%	28	27.7%	
41 - 50 yrs	18	15.4%	5	5.0%	
>50 yrs	5	4.3%	2	2.0%	
Total	117	100%	101	100%	

Comparison of gender distribution between two groups	Cases Frequency	Cases %	Control Frequency	Control %	p value
F	100	85.5%	54	53.5%	<0.001**
M	17	17.0%	47	47.0%	
Total	117	102%	101	100%	

Comparison of mean weight, mean height and mean BMI between the two groups	Cases Mean ± SD	Control Mean ± SD	p value
Wt(kg)	108.7 ± 16.48	120.8 ± 20.80	<0.001
Ht(cm)	156.98 ± 8.87	162.56 ± 9.00	<0.001
BMI	43.56 ± 4.59	45.00 ± 4.78	0.024

Comparison of BMI distribution between the two groups	Cases Frequency	Cases %	Control Frequency	Control %	p value
34 - 39.9	32	27.4%	14	13.9%	0.088
40 - 44.9	29	24.8%	32	31.7%	
45 - 50.9	41	35.0%	37	36.6%	
>=50	15	12.8%	18	17.8%	
Total	117	100%	101	100%	

Table-2 Liraglutide duration, cessation reason, association with abdominal pain

Duration of Liraglutide use in cases group	Cases group Mean ± SD	Min - Max	Median (IQR)
Duration (months)	2.63 ± 0.68	0-24	3 (2 - 6)

Reason for cessation of Liraglutide use prior to LSG	Frequency	%
None	57	48.7%
Abdominal pain	21	17.9%
Nausea	20	17.1%
Vomiting	22	18.8%
Fatigue	10	8.5%
Expensive	1	0.9%
Gastritis	1	0.9%
Non affordable	5	4.3%
Non-compliance	7	6.0%
Pregnancy	3	2.6%
Wt gain	1	0.9%

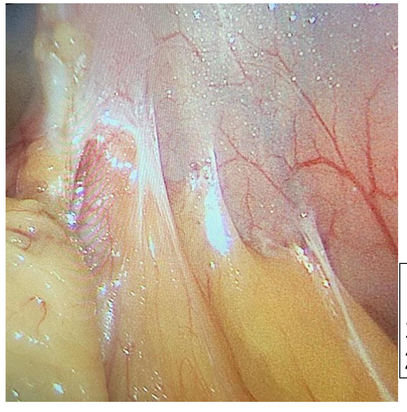
Abdominal pain showing significant association with adhesions	Adhesions Yes Frequency	Adhesions Yes %	Adhesions No Frequency	Adhesions No %	p-value
No	17	65.4%	79	86.8%	0.012
Yes	9	34.6%	12	13.2%	
Total	26	100%	91	100%	

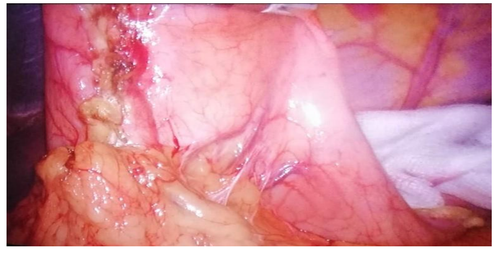
Results

- Demographics outlined in Table 1.
- In the cases group 48.7% of patients had stopped Liraglutide for no obvious reason (Table 2).
- Under the cases group, 77.8% of the patients had no adhesions while 22.2% had adhesions (Figures).
- Under the controls group, 100% of the patients had no adhesions.(p<0.001)

Discussion

- Our results for the first time demonstrate an incidence of adhesions in 22.2% patients undergoing LSG on prior Liraglutide intake. (p<0.001)
- This study brings to light the possibility of adhesions in patients with prior exposure to Liraglutide undergoing LSG.
- Surgeons performing LSG in patients with prior exposure to Liraglutide should be cognizant of this possibility thereby requiring careful meticulous dissection.





References

1JAMA Intern Med. 2013;173(7):534–9..
2.JAMA Intern Med. 2016;176(10):1474–81.