CORRELATION BETWEEN OBESITY AND PNEUMOPERITONEUM IN INITIAL TROCAR ACCESS FOR eTEP IN HERNIA REPAIR- AN OBSERVATIONAL STUDY

and take appropriate measures to mitigate associated risks.

AIM: To determine the correlation between obesity and pneumoperitoneum during initial trocar access for eTEP hernia repair

INTRODUCTION

- Accidental pneumoperitoneum formation during initial initial access is of particular nuisance in eTEP for hernia repairs as it compromises the visual field and safety of dissection.
- This risk, as per our observation, has been seen more frequently with obese patients.
- Hence we have performed a study to determine the association between pneumoperitoneum formation and obesity during laparoscopic hernia repair-eTEP

METHODS

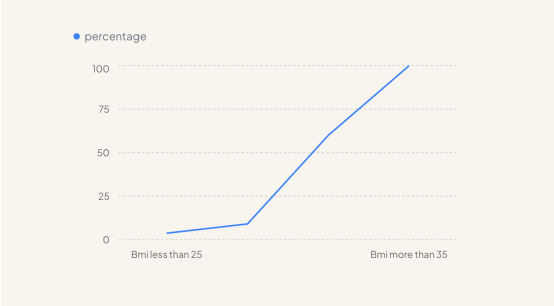
- Retrospective observational study was conducted at a single institute and included all patients who underwent laparoscopic eTEP or eTEP RS hernia repair at our centre between March 2023 and April 2024.
- The data was analysed using descriptive statistics.
- The Chi-square test was employed to evaluate the association between BMI categories (normal/overweight vs. obese) and the occurrence of pneumoperitoneum.
- A p-value of less than 0.05 was considered statistically significant

RESULTS

"Observed and Expected Frequencies of Pneumoperitonium by BMI Categories"

BMI Categories	Pneumoperitonium		$(O-E)^2/E$	No Pneumoperitonium		$(O-E)^2/E$	χ^2
	Observed	Expected		Observed	Expected		
<25	2	9.06	5.5	51	43.94	1.13	6.63
25-29.9	7	13.16	2.88	70	63.84	0.59	3.47
30-34.9	15	4.27	26.94	10	20.73	5.55	32.49
>35	3	0.51	12.07	0	2.49	2.49	14.56
Total	27	27		131	131		57.15

Since 57.15 is much greater than both critical values (7.815.)(11.345), we conclude that there is a statistically significant association between BMI categories and the occurrence of pneumoperitonium at both the 5% and 1% significance levels.



observed rates of pneumoperitoneum in our study —17.08% overall, with 64% in obese patients and 6.92% in non-obese patients—reflect a significant difference between the two groups.

CONCLUSION

- Our study findings indicate a positive correlation between obesity and the development of pneumoperitoneum during initial trocar access for eTEP hernia repair.
- Obesity emerges as a significant predictor of pneumoperitoneum formation during initial access for eTEP hernia repair, which can impact the overall difficulty and outcomes of the procedure.
- Surgeons performing laparoscopic hernia repair in obese patients should be aware of this positive correlation and take appropriate measures to mitigate associated risks.

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