





Enhanced Recovery after Bariatric Surgery (ERABS) in developing country

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Background:



- A Danish surgeon, Henrik Kehlet concept of enhanced recovery after surgery and to provide shortened length of stay (LOS) with more physiological recovery initiated in the late 1990s
- Khelet *et al.* designed a multimodal programme in colorectal surgery and shown reduced complications and shortened LOS first outlined the multi-modal approach to recovery at 1997
- Multimodal programmes developed to reduce the patient's surgical stress response, optimize their physiologic function, and facilitate recovery which leads to decrease length of stay in hospital (LOS), decrease surgical complication, and increase patient satisfaction after surgery.



Background:



- Enhanced recovery after bariatric surgery (ERABS) methodology has demonstrated consistent benefits in patients undergoing bariatric surgeries; ERABS protocol prospectively recorded. Interventions utilized included shortened preoperative fasts, intra-operative humidification, early mobilization and feeding, avoidance of fluid overload, incentive spirometry, use of prokinetics and laxatives.
- The guideline of ERAS in Bariatric and Metabolic Surgery (ERABS) developed and update and last update in 2022 by ERAS Society

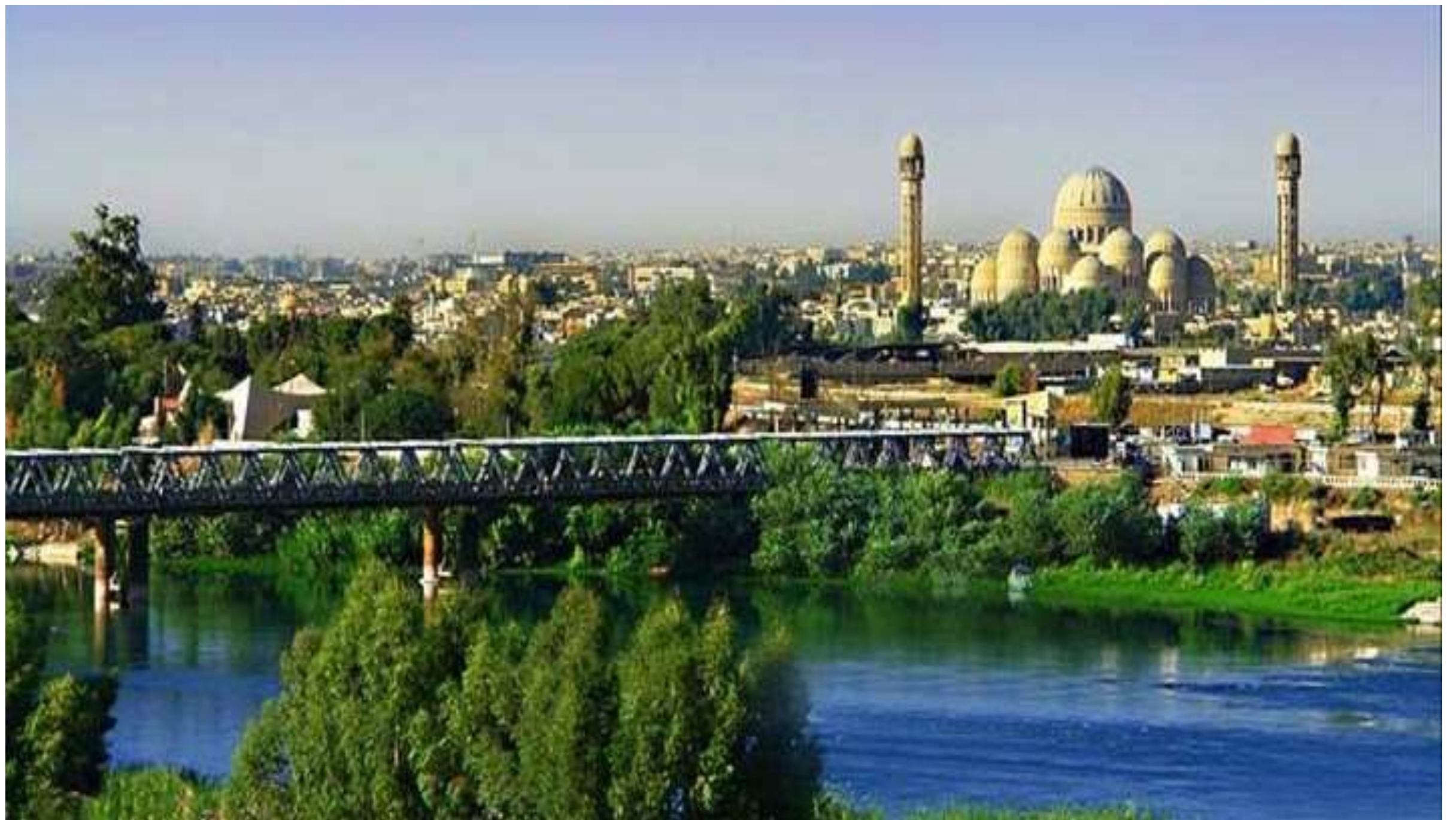




Aim of study

To assess feasibility and safety of early enhanced recovery after bariatric surgery (ERABS) in Iraq.





Method



- ❖ A prospectively study conducted on 1120 patients with laparoscopic primary bariatric surgery (longitudinal sleeve gastrectomy (LSG) (1026 patients) or Minigastric bypass (MGB) (94 patients) while revisional surgery excluded from the study
- ❖ The study done in Iraq- Ninavha & Erbil between July 2017 and July 2022.
- ❖ Data including basic demographic information, length of hospital stay (LOS), 30-day perioperative complications, and readmission rates were collected. $P < 0.05$ was chosen to be statistically significant.
- ❖ Uses of protocol of ERAS with some modification.



preoperative

- Patient & family education and discuss with them about inform consent and protocol
- Preoperative Iraqi high protein, low carbohydrate diet program (10-15 days) (Iraqi Diet)^[9]
- Decrease period of fasting with well hydration prior to operation
- Stop smoking and breathing rehabilitation (one month before and one month post-operation)
- Stop alcohol

Intraoperative

- Use intermittent pneumatic compressive device
- Good hydration but not overload
- Intraoperative 1g paracetamol injection (Paraconica- Acino[®])
- Avoid tubes & drains (only for indicated and use PJ-drain)



Postoperative

- Good hydration
- Good analgesia to be pain free (if available use TB & RSB)
- Early mobilization & Early use spirometer (2 hours)
- Early orally allowance (5-7 hours)
- Early remove of tubes if left

Postdischarge

- Early transition to oral medication
- Continuous and close follow-up by mobile and personal
- retain to normal life style ASAP (3-4 days)
- Use of probiotics (Infloran[®] tab 1*2), laxative (Movicol sachet (Acino[®]) 1*3 &/or Fiber plus 1*2 (Adrien Gagnon[®]))
- Use of Ursodeoxycholic acid (after 15 days)

Result



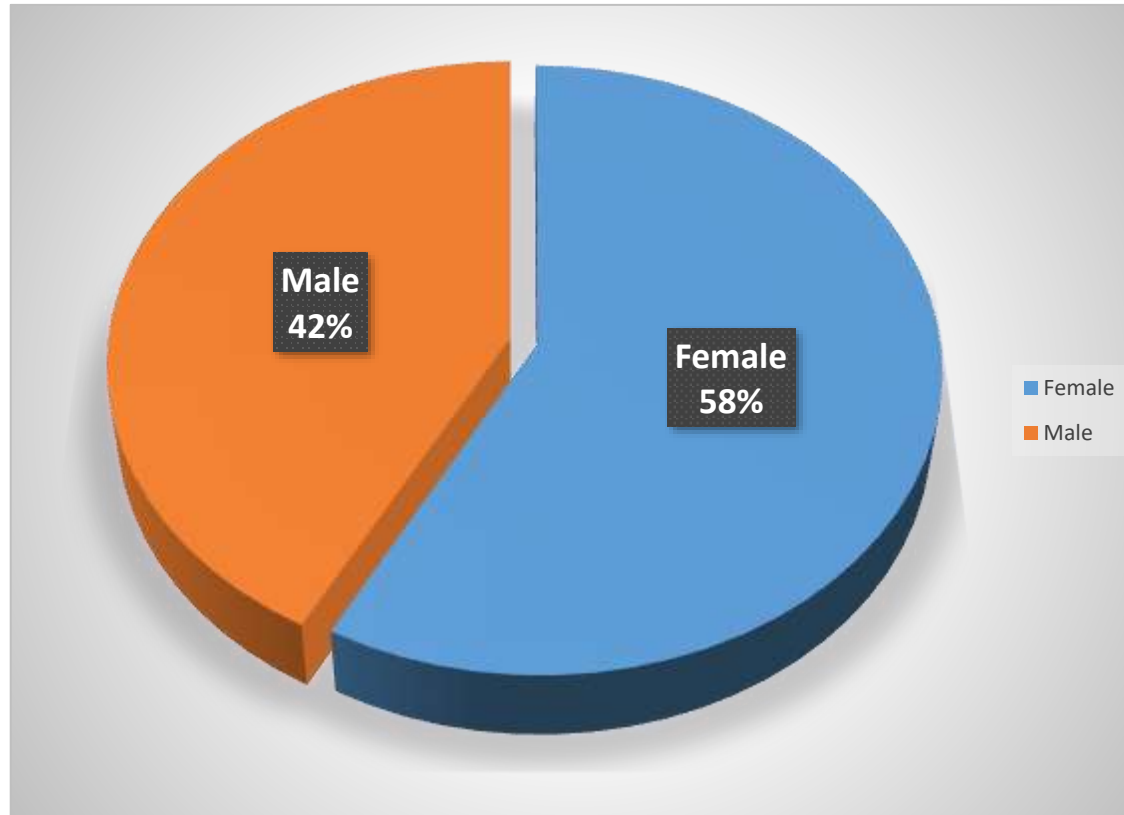
ERABS protocol applied on 1120 patients, 649 female (58%) and 471 males (42%), with BMI range from 36.7-76.3 kg/m² (average 47.9) and age 7-69 years (average 38.7 years) over 5 years (July 2017 to July 2022).

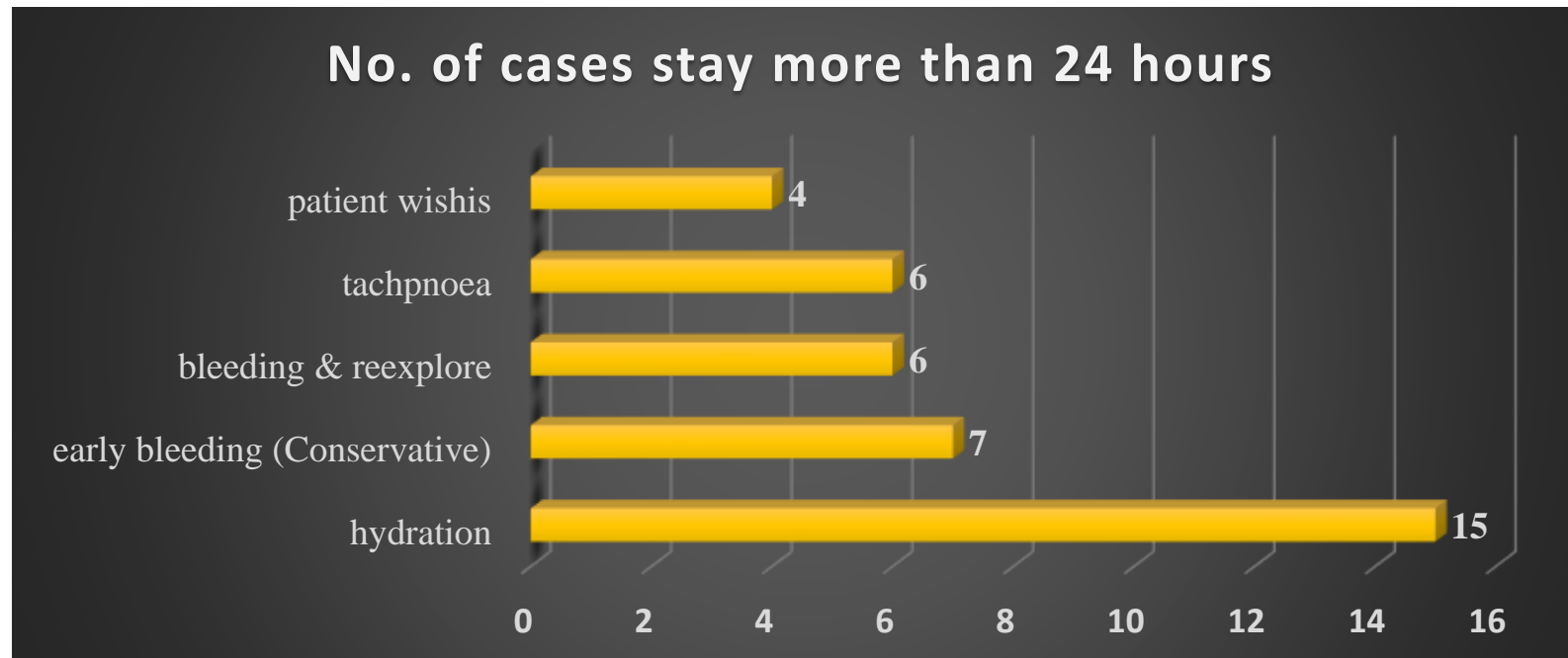
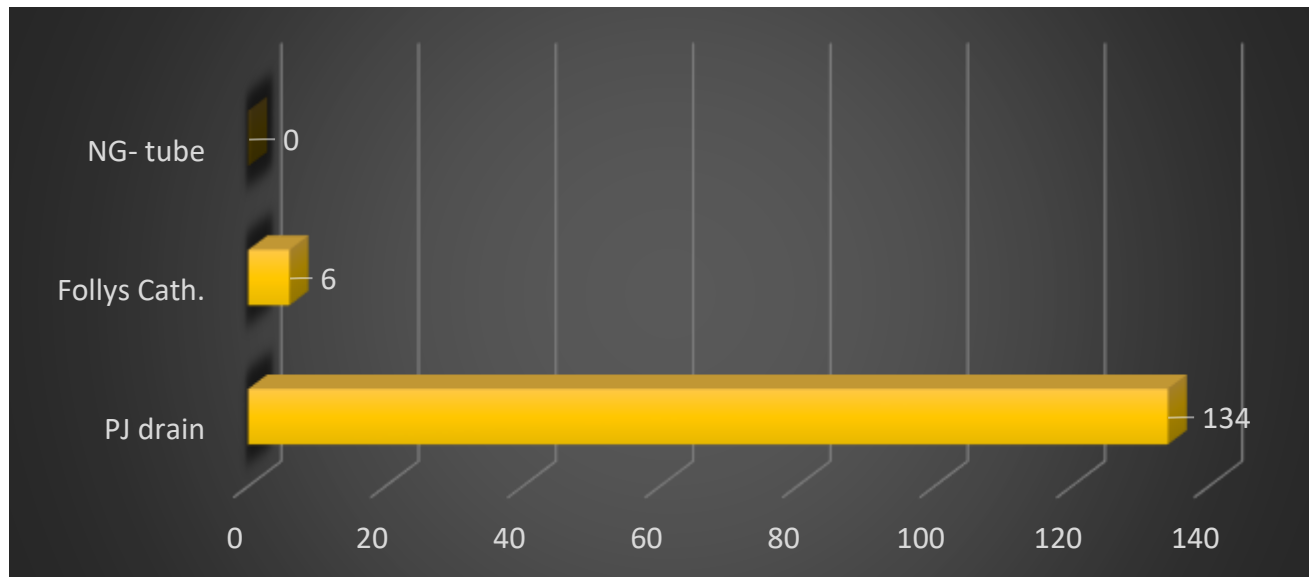
Regarding drain (PJ) 12% of patients need to left drain, while 0.5% need to left Folly's catheter and no one left with nasogastric tube.

The Length Of Stay (LOS) in hospital between 16-40 hour (24.4 ±6.48) 38 patients (3.39 %) need extended hospital stay more than 24 hours (2-5 days).

Most of patients underwent bariatric surgery need a 3-7 days to retain to their normal life style.







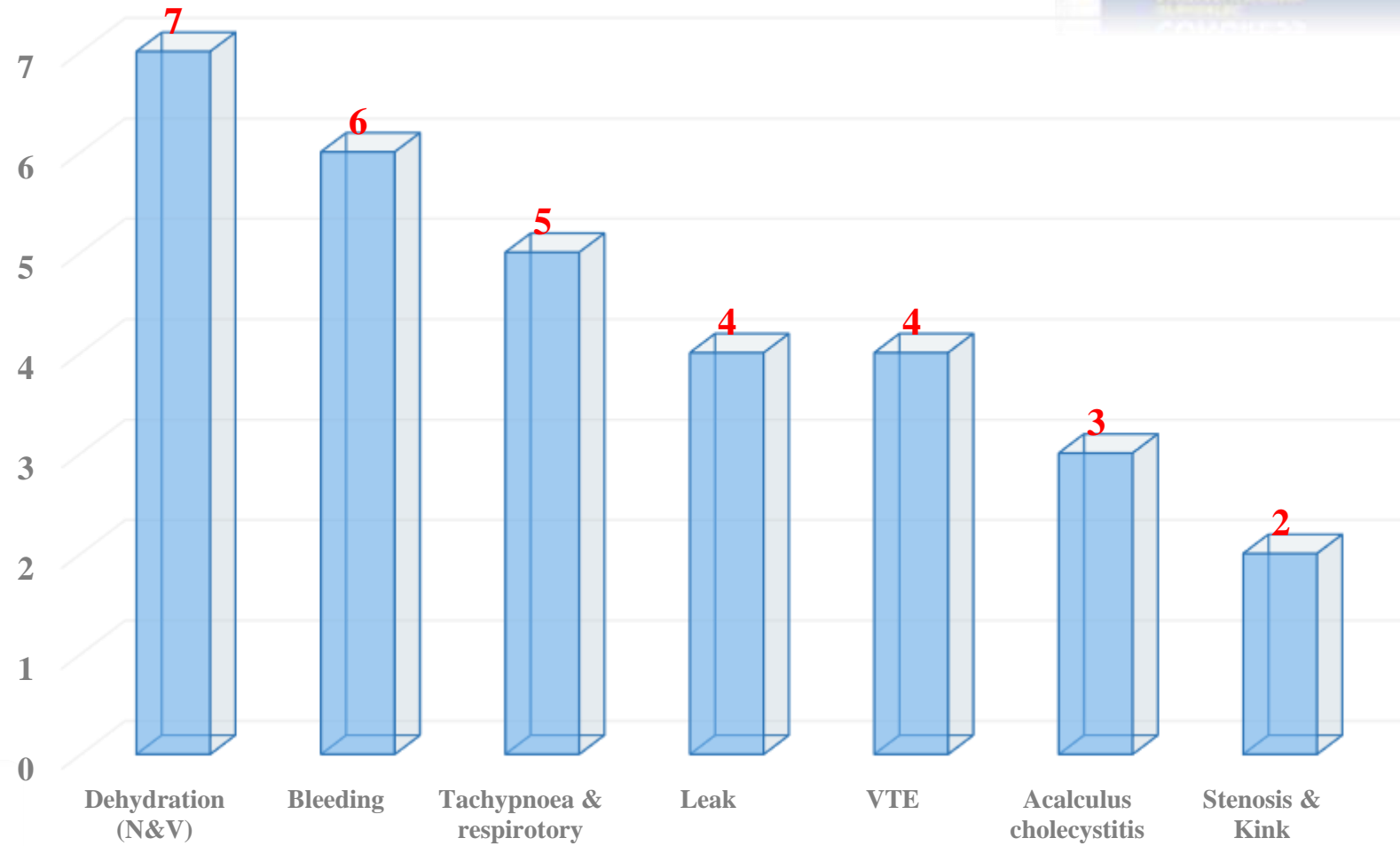


- ❖ Four (0.27%) patients develop leak, three of them treated conservatively by insert megastent and close observation.
- ❖ Two cases (0.178%) of mortality one of them because of massive pulmonary embolism in spite of all precaution) and the other one because of complication of leak.
- ❖ Thirty one patients (2.7%) need readmission within 30 day after operation.
- ❖ Ten patients (0.89%) need reoperation (early & late), 6 of them due to bleeding and diagnostic laparoscopy done, 2 of them due to intraabdominal sepsis due to leak and collection) and 2 patient (0.17%) due to twisted sleeve & other with stricture in which the procedure changed to single anastomosis sleeve jejunostomy SASJ & single anastomosis (omega loop) gastric bypass (MGB).





causes of readmission





- ❖ P-value calculated between bariatric surgery with ERABS protocol and traditional bariatric surgery regarding 30-day perioperative complications, and readmission rates are not significant (0.223, 0.32 interval)
- ❖ Regarding LOS and period of retaining to normal lifestyle are significant (0.000257, 0.046 interval).



CONCLUSION



ERABS protocol is feasible, safe and cost effective in bariatric surgery



