STANDARD OPERATING PROCEDURE

GASTRIC OUTLET OBSTRUCTION (GOO)

1. Purpose

To provide a standardized approach for diagnosis, resuscitation, investigation, and surgical management of patients with gastric outlet obstruction to reduce morbidity and mortality.

2. Scope

Applies to: General surgeons, surgical residents, emergency physicians, endoscopy unit, nursing staff

3. Responsibilities

Surgeon - Clinical diagnosis, resuscitation supervision, investigation planning, decision for surgery, operative management, documentation

Surgical Resident - Initial assessment, NG tube insertion, fluid resuscitation, monitoring**,** preparation for surgery

Nursing Staff -Vital monitoring, NG care, Fluid charting, Electrolyte monitoring

4. Definition

Gastric outlet obstruction is mechanical obstruction to gastric emptying at: distal stomach, pylorus, first part of duodenum

5. Causes

Benign causes - Peptic ulcer disease, chronic duodenal ulcer, caustic ingestion, post-surgical stricture

Malignant causes (common overall cause)

Gastric cancer, pancreatic head cancer, duodenal cancer, cholangiocarcinoma, metastasis

6. Clinical Features

Symptom - Persistent vomiting (non-bilious), projectile vomiting, early satiety, weight loss dehydration, epigastric fullness

Late features: Electrolyte imbalance symptoms, weakness, tetany (alkalosis)

Signs – Dehydration, visible gastric peristalsis, epigastric distension, succussion splash (>3 hrs after meal)

7. Initial Assessment: BP, Pulse, Urine output, Respiratory rate, assess dehydration severity.

8. Initial Management - Resuscitation comes BEFORE investigation.

Step 1: Nil per oral (NPO)

Step 2: Nasogastric tube - wide bore NG tube, gastric decompression, reduce aspiration risk, measure output

Step 3: IV Access Two wide bore cannulas. Normal saline or Ringer lactate to correct dehydration

Step 4: Electrolyte correction

Typical abnormality: Hypochloremic hypokalemic metabolic alkalosis.

Correct: Potassium chloride, Normal saline preferred.

Step 5: Urinary catheter Monitor urine output (Target: 0.5 ml/kg/hr)

Step 6: Blood tests CBC, Urea/Creatinine, Electrolytes, LFT, Albumin, ABG if severe vomiting

9. Investigations

First line: Upper GI endoscopy (gold standard).

Confirms: Cause, Level, Biopsy if malignancy

Imaging: Ultrasound: Initial screening.

CT abdomen: Assessment of tumor extent, pancreatic lesion, metastasis, lymph nodes

10. Preoperative Optimization

Important principle: "Never operate dehydrated GOO patient"

Correct: Dehydration, Electrolytes, Malnutrition, Anemia

Goals: Urine output adequate, electrolytes normal, NG output reduced,hemodynamically stable

Usually takes: 24–72 hours preparation.

11. Definitive Management Depends on cause.

A. Benign GOO management

Conservative trial: NG decompression, PPI, H. pylori eradication, fluid correction

Surgery indications: Failure conservative, fibrotic stricture, recurrent obstruction

Surgical options: Most common: Gastrojejunostomy.

Truncal vagotomy + gastrojejunostomy
Truncal vagotomy + antrectomy
Highly selective vagotomy (rare now)

B. Malignant GOO management: Depends on operability.

Resectable: Distal gastric cancer: Distal gastrectomy.

Pancreatic tumor: Whipple procedure.

Unresectable: Palliative gastrojejunostomy

12. Postoperative Care

Monitor: Vitals, Urine output, NG output, Electrolytes

NG removal: When output decreases and bowel function returns.

Diet progression:

Day 1–2: IV fluids

Day 3: Clear fluids

Day 4–5: Soft diet (Depends on recovery)

13. Complications

Preoperative: Aspiration, AKI, Electrolyte imbalance

Postoperative: Anastomotic leak, delayed gastric emptying, dumping syndrome, infection

14. Monitoring

Daily: Vitals, Fluid balance, electrolytes, abdominal exam

Watch for: Persistent vomiting, abdominal distension, fever

15. Discharge Criteria

Patient tolerates diet
Electrolytes normal
Mobilizing
No infection
Stable vitals

16. Follow Up

Benign disease: 2–4 weeks review.

Malignancy: Oncology referral.

Nutritional follow up.

Histology review mandatory.

17. Documentation

Must include: Admission note, resuscitation details, NG output chart, electrolyte correction endoscopy findings, operative note, postoperative progress and histology

18. References

Bailey & Love's Short Practice of Surgery
Sabiston Textbook
ASGE Upper GI guidelines
NICE gastric cancer guidelines