



Fayoum University  
of Medicine Faculty  
Anesthesia Department

جامعة  
الفيوم  
كلية الطب  
قسم  
التخدير

## Gastric Residual Volume Assessment by Gastric Ultrasound in Fasting Obese Patients: A Comparative Study

### Background:

Gastric ultrasound is an emerging tool for preoperative evaluation of gastric content and volume.

### Objectives:

To assess gastric residual volume in normal-weight and obese patients scheduled for elective surgery.

### Methods:

This prospective observational study was conducted on 100 patients assigned to two groups of 50 patients each. The

obese group included patients with body mass index (BMI) of 30 - 40 and American Society of Anesthesiologists (ASA) grade II and

those with BMI > 40 and ASA III without other comorbidities; the normal-weight group included patients with normal BMI and ASA

I. Gastric volume was predicted in each group using sonographic measurement of antral cross-sectional area (CSA) in semi-sitting

and right lateral positions (RLP); the two groups were compared to assess the risk of aspiration for each group preoperatively.

### Results:

**Despite intergroup differences in antral CSA, the sonographically predicted gastric volume was  $< 1.5$  mL/kg in both groups**

**in both positions. Both groups were at a low risk for aspiration, and 98% of the patients showed grade 0 or 1 in antrum assessments,**

**corresponding to an empty antrum and minimal fluid only in the RLP, respectively. Only 2% of the patients in both groups showed**

**a distended antrum in both positions.**

### **Conclusions:**

**Despite the differences in CSA between obese and normal-weight participants in both positions (obese  $>$  normal-**

**weight), both groups showed a low predicted gastric residual volume  $< 1.5$  mL/kg and were at low risk for aspiration, provided that**

**fasting was initiated at least 8 hours before elective surgery.**