

**Correspondence****Experience with Sedation Technique for Intra-gastric Balloon Placement and Removal****To the Editor:**

The use of an intra-gastric balloon (IGB) in the treatment of obesity and morbid obesity is now common practice. The idea of using a gastric space-occupying device, giving a sensation of satiety for the control of obesity, was first described in 1982.<sup>1</sup> IGB is an effective procedure, with satisfactory weight loss and improvement in co-morbidities at 6 months. Previous gastric surgery is a contraindication to IGB placement.<sup>2</sup> The fact that there is no strict necessity for general anesthesia and hospitalization is important for IGB. However, it is obvious that more cautious sedation and anesthesia protocol are necessary for both the physician and the patient not to experience any problems during the procedure.

From March 2004 to January 2007, sedation was applied to a total of 165 patients for IGB-related procedures: 102 IGB (BIB<sup>®</sup>, Inamed/Allergan) inserted, 63 IGB removed (110 females, 55 males); mean age  $36.7 \pm 12.1$  years (range 14-62); mean BMI  $41.8 \pm 5.2$  kg/m<sup>2</sup> (range 30-60); mean duration for insertion 12 min; and mean duration for removal 14 min). Our techniques were applied in the operating-room, with monitoring (non-invasive arterial blood pressure, SpO<sub>2</sub>, 3-lead ECG). After an 8-hour fast, all patients were premedicated with 0.05 mg/kg I.V. midazolam (Dormicum, Roche, Turkey) at 10 minutes before they arrived in the operating-room. In order to increase the intensity of sedation and suppress the reflex responses (cough, etc.), 1 mcg/kg of fentanyl I.V. (Fentanyl, Janssen-Cilag, Turkey) and 45.5 mg of feniramin hydrogen meateat I.V. (Avil, Sandoz, Turkey) were given as a standard. When arterial blood pressure or heart rate decreased 10% or more, according to the baseline values, or when Ramsey Sedation Score was determined as 2, an additional 0.5-0.75 mg/kg propofol (Diprivan, AstraZeneca, Turkey) was given I.V. to reach deeper sedation levels.<sup>3-5</sup> In order to establish adequate conditions for the intervention, sedation score was

aimed to be 5. Patients were supported with continuous nasal oxygen (3 litres/min).

Using this method, prominent marked hypoventilation periods as indicated by SpO<sub>2</sub> <90% with superficial respiration, which were considered as the pre-arrest pattern of respiration, occurred in two patients during the process. The procedure was discontinued immediately in these two patients and their respiration was supported by manual mask ventilation with 100% oxygen via anesthesia machine in both patients. It was thought that the cause was a quick IV bolus of propofol which was given in a higher dose than needed and in a short period of time. No medication was applied in this rescue period. In 2 minutes, the optimal spontaneous respiration occurred, and SpO<sub>2</sub> returned to >95% in both patients. After the procedure, patients were observed during a recovery period of 20 minutes and then were taken to the ward.

Patients who had this IGB sedation technique were kept in the clinic for 6 hours, where 0.09% NaCl 1,000 cc with ondansetron HCl 4 mg/day (Zofran, GlaxoSmithKline, Turkey), hyoscine-N-butyl bromide 20 mg 3x/day (Buscopan, Eczacibasi, Turkey), omeprazole 20 mg/day (Losec, AstraZeneca, Turkey) were given to all patients, who were discharged with recommendations. The patients who had IGB removal were discharged after an observation period of 2 hours.

If we consider that this procedure takes about 10-15 minutes, all the patients are obese, and the difficulties and risk of general anesthesia in the obese patient, we believe that this sedation technique can be preferable to general anesthesia. The cases with marked hypoventilation were successfully ventilated by mask and sufficient spontaneous respiration could be restored after the rescue maneuver.

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