LAGB in pregnancy: slippage after hyperemesis gravidarum.
Report of a case

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Bariatric surgery procedures are more and more performed in women of reproductive age, whose fertility often increases after weight loss, so they frequently become pregnant. In this condition they require appropriate management, according to the type of procedure, malabsorptive or restrictive. If health risks related to obesity (gestational diabetes, pregnancy-induced hypertension, pre-eclampsia) decrease after weight loss, other risks related to bariatric procedures could appear. LAGB is a safe and well-tolerated procedure, but some complications could appear more frequently during pregnancy; some symptoms could be suggestive for important complications, that if not treated in the best way could threaten mother and child's health. Emesis of the first trimester could favor slippage, thus influencing feeding and fetal growth. The slippage of the band is a common complication of LAGB, that usually does not lead to serious conditions, but in our case the pregnant risked a lot because of malnutrition. The purpose of this article is to present an obstetric case study of a woman who experienced this complication postbariatric surgery and the implications for mother and child. A correct diagnosis and management of the clinical case led to a positive conclusion, thus underlining bariatric surgery and its complications should be known and taken into account by every physician.

KEY WORDS: LAGB, Pregnancy, Slippage.

Introduction

The major part (over 80%) of patients undergone to laparoscopic adjustable gastric banding (LAGB) are women, and approximately half of these are of reproductive age; therefore, pregnancy post-LAGB is common [1]. Restrictive bariatric surgery also decreases obesity-related morbidity, thus increasing fertility rate too [2]. Several studies have demonstrated no increased risk for adverse pregnancy outcomes to the mother or the fetus after having either restrictive or malabsorpitive types of bariatric surgery [3-5]. LAGB is safe and well-tolerated during pregnancy with a lower incidence of gestational diabetes and maternal hypertension. Pregnancy is associated with a number of physiological and anatomical changes. More frequent emesis and the growing fetus' displacement of abdominal organs and the band itself may have potentially led to an increase in complications leading to revisions, as literature reports [6-9]. A patient of us had slippage of LAGB following hyperemesis of the first trimester, that made impossible feeding since 13 weeks.

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Case Report

A 25-year-old morbidly obese woman (weight 132 kg, body mass index 47.5 kg/m^2) without comorbidities underwent laparoscopic gastric banding in 2007 (Fig. 1). After this therapy she complied with the follow-up offered by the surgeon and lost 70 kg (BMI 22.2, E%WL= 93). At the end of 2008 she had already reached a stable weight of 62 kg when gastric banding was deflated and she underwent to two interventions of plastic surgery to remodel abdomen and thighs, removing excess of skin after ponderal decrease. In October 2010 she became pregnant. The gastric band was deflated again to avoid complications of the first trimester, her diet was supplemented with iron, folate, and parenteral vitamin B12 by her gynecologist [10,11]. From third week of gestation, she complained vomiting, more and more frequent, every time she ate. The patient was treated at home with intravenous fluids, water-soluble vitamins, trace elements and restriction of oral food [12-14]. She was conservatively managed until 13 weeks, but she had lost further 12 kg from the beginning of her pregnancy, so she was admitted in our hospital. At the moment of the admission she weighed 50 kg, showing symptoms and signs of malnutrition (asthenia, anorexia, hypotension, anemia and hypotonia) (Fig. 2). Patients refused to undergo to gastroscopy, we decided not to submit her to radiation after ingestion of contrast, in order to preserve fetus from risk of prenatal radiation exposure [15]. On ultrasonography fetal condition were unexpectedly good, he was alive, showing fetal movements, regular heart rate and estimated fetal weight was appropriate for gestational age; no fetal anomalies were detected. Thanks to the reduced thickness of abdominal wall USG was able to reveal dilation of the pouch proximal to the band, thus suggesting gastric outlet obstruction due to the slippage of the band. Her condition did not improve, she was not able to ingest liquids too, so the removal of gastric band became imperative [16]. After signing consensus reporting all fetal risks related to general anesthesia and surgical procedure, patient was urgently operated (Fig. 3). The band was removed laparoscopically, performing access in open laparoscopy and using three trocars. At the laporoscopic evaluation stomach showed a wide pouch proximal to the band, slipped until the antrum, where an area of fibrosis seemed to cause stenosis. The band was cut and removed, than an orogastric probe was introduce to assess good intragastric transit. The intervention was completed as soon as possible (about 25 min) in order to reduce anesthesia-related risks for fetus [17]. No drainage was used. No intra-operative nor post-operative complications occurred. The patient was able to eat and drink since the first postoperative day, than she was dismissed in the second po. day after gynechological visit assessing good fetal conditions. At the first visit control a week after the removal, she followed regular feeding, obtaining a ponderal increase of 6 kg. At 18 weeks structural ultrasonography showed no fetal abnormalities, good flow of umbilical vessels and excellent fetal growth [18]. The pregnancy actually continues regularly both for mother and for child.

Fig. 1: The patient before LAGB.

Fig. 2: The patient at the admission.

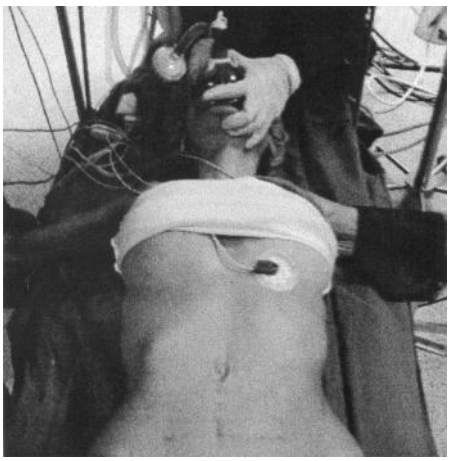

Fig. 3: The patient at the operating table for band removal.

Conclusion

More and more frequently pregnancy occurs in patients undergone to bariatric surgery. Bariatric surgery has two kinds of relation with pregnancy. It decreases morbidity obesity-related, increases rate of fertility (normalization of hormonal values, menstrual regularization, improving of Polycistic Ovarian Syndrome), reduces risks of gestational diabetes, pregnancy-induced hypertension, preeclampsia and also improves neonatal outcomes (premature delivery, macrosomia, low birth weight, perinatal mortality) [2]. If health risks related to obesity decrease after weight loss, other risks related to bariatric procedures could appear. LAGB, being a restrictive and not a malabsorpitive procedure, is safe for both mother and newborn during gestation and delivery, but band slippage may be increased during pregnancy and should be suspected in symptomatic patients [7,19,20]. Patients should be counseled as to the risk of band slip during pregnancy and postpartum. Improving the information delivered to pregnant women risks for both mother and fetus can be correctly reduced and managed [21-23].

Riassunto

La maggior parte (più dell'80%) dei pazienti sottoposti a bendaggio gastrico laparoscopico (LAGB) sono donne, circa la metà di queste sono in età riproduttiva; la gravidanza sta diventando quindi un evento sempre più comune dopo LAGB. Le procedure restrittive inoltre, aumentano anche il tasso di fertilità, riducendo le morbilità obesità-correlate. Vari studi hanno dimostrato che il bendaggio gastrico è un intervento sicuro sia per la madre che il feto, tuttavia alcune complicanze, come lo scivolamento possono diventare più comuni durante la gravidanza a causa del vomito frequente e dei cambiamenti anatomici. Abbiamo presentato il caso clinico di una paziente sottoposta ad LAGB, che ha subito uno scivolamento a causa dell'iperemesi gravidica, vedendo compromesse le sue condizioni cliniche fino alla malnutrizione. I rischi per la madre e per il feto in tali circostanze possono essere elevati, ma una diagnosi precisa e un intervento precoce hanno scongiurato nel nostro caso esiti gravi. La paziente donna di 25 anni, affetta da obesità patologica (peso=132 kg, BMI= 47.5 kg/m^2) è stata sottoposta a LAGB nel 2007. Nei due anni successivi ha perso 70 kg (BMI= 22.2, E%WL=93) ed è stata sottoposta ad interventi di chirurgia plastica di rimodellamento (addominoplastica,lifting cosce).
Nell'ottobre 2010 ha raggiunto un peso stabile di 62 kg e inizia una gravidanza. Il band è stato regolato rimuovendo parte del contenuto liquido per evitare complicanze e la dieta è stata integrata secondo le indicazioni del ginecologo. Dalla terza settimana di gestazione la paziente lamentava reflusso e vomito, sempre più frequenti, soprattutto al mattino, che le rendevano difficoltosa l'alimentazione. È stata trattata con terapia infusiva fino alla 13a settimana, quando pesava 50 kg, mostrando sintomi e segni di denutrizione (astenia, anoressia, ipotensione, anemia e ipotonia) per cui è stata ricoverata. La sintomatologia della paziente, data l'anamnesi di intervento bariatrico richiedeva l'esecuzione di un'EGDS, a cui ella rifiutava di sottoporsi, o in alternativa una radiografia con m.d.c., che decidiamo di evitare per ridurre i rischi per il feto. All'ecografia le condizioni fetali sono inaspettatamente ottime e grazie allo spessore ridotto della parete addominale, si visualizzava anche una dilatazione della tasca prossimale al band, suggerendo lo scivolamento dello stesso. Intanto la paziente non riusciva più a ingerire neanche liquidi senza vomitare, per cui il band è stato rimosso in urgenza laparoscopicamente. All'intervento lo stomaco presentava un'ampia tasca prossimale estesa fino all'antro dove il band era scivolato causando stenosi e quindi ostacolo al transito gastroduodenale.
L'intervento è stato completato nel minor tempo possibile (circa 25 minuti) per ridurre i rischi chirurgici e anestesiologici per il feto. La paziente si alimentava in I giornata postoperatoria e veniva dimessa in II giornata, dopo consulenza ginecologica che accertava le buone condizioni del feto. Al primo controllo a 7 giorni dall'intervento il peso della nostra paziente era aumentato di 6 kg. La gravidanza continua regolarmente, i controlli ecografici morfostrutturali non hanno mostrato anomalie per il feto, che è in ottime condizioni e presto nascerà.
Le relazioni tra chirurgia bariatrica e gravidanza sono sempre più comuni. La chirurgia bariatrica aumenta il tasso di fertilità, riduce i rischi di diabete gestazionale, preeclampsia, ipertensione indotta dalla gravidanza per la madre, riduce i rischi di complicanze neonatali (basso peso alla nascita, parto prematuro, macrosomia e mortalità perinatale). Allo stesso tempo la chirurgia malassorbitiva può dare deficit nutrizionali (carenza di ferro, acido folico, vitamine B12 e liposolubili), mentre quella restrittiva pur se sicura dal punto di vista nutrizionale può dare problemi per l'aumentato rischio di complicanze (scivolamento del band). La conoscenza della chirurgia bariatrica e delle sue complicanze più comuni è a nostro avviso interesse di tutti i medici, che in situazioni fisiologiche possono trovarsi di fronte a situazioni ad esse correlate, solo una corretta gestione del problema può ridurre i rischi per i pazienti.

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