Simple Bariatric Telemedicine

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Abstract: Post-operative bariatric patient monitoring is essential to detect early serious complications. Pulse rate and temperature are the most important parameters. Using simple “WhatsApp” technology to link patient and surgeon makes such monitoring very easy and reliable.

Keywords: Simple Telemedicine; WhatsApp; Patient monitoring; Pulse rate.

Introduction

Monitoring of bariatric patients is essential not only during the early postoperative period, but also after discharge from the hospital. Mason [1] in 1995 wrote one of the best papers of bariatric surgery by addressing that heart rate is the most important postoperative clinical sign in the morbidly obese patient. As hospital stays are getting shorter, a patient with a fast-track program usually stays less than 36 hours, but then appropriate follow-up is still vital in the post-operative period.

Gagnière [2] has recently stated that no patient should be discharged with tachycardia.

We have designed a "Simple bariatric telemedicine" technique to be used right after discharge with the aim to monitor the patient’s vital signs.

A practical and simple way is to get reports of the vital indicators, especially pulse and temperature. Until now this simple clinical information was a complex procedure because the patient was, perhaps, unreliable or unable to complete it or had to visit a clinic frequently.

Method:

The bariatric patient brings to the hospital, before the operation, two simple tools to ensure that he knows how to use them properly: 1) A blood pressure device with digital screen where the important pulse rate and blood pressure are indicated and also a Digital thermometer. (Fig. 1)

![Fig. 1 Pulse and temperature monitoring](image)

With the use of a cell phone camera the patient informs us every four hours reliably of both parameters. There is no need to go to a health center to have it checked and just by pressing a button the surgeon has the data on his cell phone. The time at which the measurements are taken is also shown.

The patient checks daily:

1. Presence of chills ;
2. Ask the patient to drink 20 c.c. of Methylene blue daily and monitor the Baker drainage bag (the patient is trained to remove the drain himself on the seven day post-op day).

As the wounds of laparoscopy are small, we leave wounds exposed the same day, the patient takes a shower and we remove the stitches at 36 hours, and then the wound edges are covered with a transparent adherent strip until the seventh day when the patient himself removes the drainage and applies a dressing for 3 more days.

The presence of any abnormality of these four signs means that the patient should make a direct contact and visit with the surgeon in charge of him.

Material and Clinical case:

Since May until December 2015 all the 21 bariatric operated patients in our clinic were trained on the simple reporting as described in the method. The procedures performed were 20 Sleeve gastrectomy and one Duodenal Switch patients. All patients’s followed the instructions and reported the very important vital signs of Pulse and temperature to the surgeon in charge without any further help.

Case 1. A 49 year-old female, with a Body Mass Index (BMI) of 43 kg/m² had a Vertical Banded Gastroplasty (VBG) done 29 years earlier with full separation with staplers of the vertical suture line (3). She regained weight with time, has BMI of 47 and metabolic syndrome (Glucose-242, HbAC1-8.3, Cholesterol-240, triglycerides 539 and hypertension). She had surgery on December 16th, 2015. The planned procedure was a laparoscopic DS but after two hours dissection she had to be converted to an open DS due to adhesions and bleeding. The procedure was completed without any difficulty. She was discharged asymptomatic on the fifth post-op day and with two Blake drains in place close to the gastrectomy staple-line. She followed the instructions and reported her vital signs correctly.

Seven days post-op, she was asymptomatic and sent her first report in the morning with a 123 pulse rate. She was re-admitted immediately and a CT scan showed an un-drained abscess and a leak at the Esophagogastric junction. The drains were not collecting the leak. The drains were replaced and the leak properly drained the same day. A removable stent was inserted 10 days later. By February the drains became clearer, the stent was removed by endoscopy in March and also the drains. Her current BMI at 4 months post-op is 35, %EWL-48, %EBMIL-56, her glucose and HbAc1 become normal and she is eating regular food.

Conclusion

A simple use of current technology may allow patients to be discharged home safely since the most important signs of bariatric complications can be followed as efficiently as in the hospital setting.

References:
