

## Sensitive Uterus Post Bariatric Surgery (Case Report)

Latteefah Saleh Alnaeem\*

College of Medicine, Obstetrics and Gynecology Department, King Faisal University,  
AI Hfouf, Kingdom of Saudi Arabia.

\*Corresponding author: Latteefah Saleh Alnaeem, Mobile No.: +966504935792,

ORCID: 0000-0002-3677-2454, E-mail: Latifa\_alnaeem@hotmail.com

### ABSTRACT

**Background:** This female case highlights the effect of bariatric surgery in modifying the physiology of the patient and her irregular hormonal response to stress.

**Case summary:** The reported patient had an uneventful menstrual history prior to performing her gastric sleeve till two years post-surgery, started to become sensitive to any stressful event with intermenstrual bleeding, all investigations suitable to her case were within the standard limits and despite trial of variable hormonal and non-hormonal treatments were ineffective, while relaxing techniques and cognitive behavioural therapy were applied with positive results.

**Conclusion:** Bariatric surgery could change the physiological stress response; after the exclusion of other known causes, behavioural therapy could improve the treatment outcome. Further studies need to support these findings.

**Keywords:** Intermenstrual, Vaginal bleeding, Bariatric surgery, Obesity, Case report, King Faisal University.

### CASE PRESENTATION

Thirty-three years old female patient presented to the outpatient clinic with a history of recurrent onset of intermenstrual bleeding, which was characterized to be mild, dark coloured blood with mucus that started on her twelfth day of the period after five days being dry. It continued for ten days then stop spontaneously without any interventions. The events were recurrent irregularly through the year.

The patient claims that this complaint started after a serious psychological accident in her life two years ago, the death of her dearest friend. She described this bleeding happened to her later with the stressful events. She delivered three times with no history of previous miscarriages or other abnormal pregnancies. Regarding her previous deliveries, all were spontaneous vaginal delivery; she is not known to have any medical illness with a history of gastric sleeve four years ago with a gradual loss of thirty-five kilograms during the first two years, then her weight stabilized. She is not on medications except for combined oral contraceptive pills for six years after her last delivery and vitamins. She had a regular period with combined oral contraceptives, average blood loss for five to six days, and no vaginal discharge or itching. She had no post-coital bleeding or dyspareunia. There was no family history of endometrial, ovarian, or breast cancer.

The patient is a teacher and has an average income and stable family bonds. She had been screened for the psychological disorder during her annual women's health visit and was never diagnosed with any disorder and mentioned that it was not the first emotional accident in her life; however, it was the first one after her surgery. The patient underwent assessments, including a general examination and speculum examination, which showed no signs of infection or ectropion. The PAP smear was obtained, and the result was normal. Bimanual examination showed a pelvic anteverted uterus with unpalpable ovaries with no

cervical motion tenderness was noted. Investigations included transvaginal ultrasound showing thin endometrium 0.1 mm, no myometrial pathology noted, and ovaries were average size with no cysts.

Pregnancy was excluded, and laboratory tests results were within normal limits of lab reference, including haemoglobin 13.2 g/dl, haematocrit 39%, platelets 319 thousands/cmm, total leukocytes count 8 thousands/cmm, coagulation profile including PT 12 seconds, a activated PTT 27seconds, fibrinogen 133 mg/dl, liver functions tests including (ALT) Alanine aminotransferase 15, (AST) Aspartate aminotransferase 25, and TSH (thyroid stimulating hormone) 1.25 mIU/L, Calcium 9.7 mg/dl, total vitamin D 47.4 ng/ml. As a management strategy plan, the patient was instructed to use nonsteroidal anti-inflammatory drugs combined with antacids in doses suitable to her history of bariatric surgery and to change the pills market company for twelve months; unfortunately, in a follow-up visit, no benefits were achieved especially after a stressful episode. The patient was counselled about behavioural therapy and relaxation techniques. Six months later, the patient reported improvement in her symptoms, decreasing the duration of bleeding while practising relaxing techniques.

### DISCUSSION

Irregular uterine bleeding (AUB) is the coordinated cause of a critical healthcare burden for females, their families, and society. Up to 30 percent of ladies will look for medical advice for this issue throughout their reproductive years<sup>(1)</sup>.

Intermenstrual bleeding means AUB that happens between well-defined patterned menses. It can be cyclical or acyclical. Recurrent midcycle intermenstrual bleeding refers to a small amount of bleeding emerging from the endometrium around midcycle and happens in roughly 9 percent of all reproductive-age females. This

is often thought to be related to the midcycle drop in circulating estradiol levels that happens directly after ovulation. Acyclical intermenstrual bleeding is bleeding that is not recurrent at the same time or expected and is usually related to non-malignant lesions, such as persistent cervicitis/endometritis or polyps of the cervix or endometrium or intracavitary uterine fibroids; post-coital bleeding is a frequent one of presentation. Less commonly, such bleeding can be characteristic of some pathologies, such as cervical or endometrial cancer <sup>(2,3)</sup>.

Even though it is generally assumed that the complaint of menorrhagia shows gynaecological pathology, there is proof to propose that it can, too, be a sign of mental disturbance. Females with mild to moderate depression appeared to prove less extreme menstrual bleeding based on **Greenberg** <sup>(4)</sup>. Controversy, a critical extent of females with complaints of menorrhagia has their measured menstrual blood loss and was within the acceptable amount. Psychosocial variables can affect their looking for health care <sup>(5)</sup>. Furthermore, an association is noted between depression, early perimenopause, and menopause. The association was found to be the maximum in women with natural menopause at the age of fewer than 40 years. Excessive corticotropin-releasing hormone (CRH) levels in depression gave rise to suppression of the hypothalamic-pituitary-gonadal (HPG) axis and increased cortisol levels which further suppress the action of gonadotropin-releasing hormone (GnRH) neurons, gonadotrophs, and gonads. The consequent changes in luteinizing hormone (LH) amplitude, follicle-stimulating hormone (FSH) levels, and LH pulse frequency were noted in patients with depression <sup>(6,7)</sup>.

**Morgan et al.**, observed an escalation in mental health clinic presentations after bariatric surgery, particularly among those with a history of psychiatric illnesses or who developed surgical complications requiring additional surgery. These notices questioned the hypothesis that weight reduction by bariatric surgery would improve mental health in patients with obesity <sup>(8)</sup>. Other reviews support the fact that despite the presence of general improvements in psychopathology, depressive symptoms, eating behaviour, and body image, following bariatric weight loss surgery, they correlate postoperative psychological health to the patient's sense of taking control of their life and by physical and mental support from health care staff <sup>(9)</sup>.

As there is a range of medical therapies offered for the treatment of heavy menstrual bleeding, most of the therapy offered for intermenstrual bleeding share same principles. Non-steroidal anti-inflammatory drugs are known to decrease prostaglandin levels, which are elevated in women with excessive menstrual bleeding and also may have a beneficial effect on dysmenorrhoea <sup>(10)</sup>. Levonorgestrel intrauterine system, oral combined contraception, luteal-phase progestins are also proposed

treatments <sup>(11)</sup>; however, and as a limitation of the plan management, endometrial sampling was insufficient with patient refused to do curettage or having other additive forms of hormonal therapy, especially with her long history (10 years) with use of oral combined contraception pills.

## CONCLUSION

Bariatric surgery could change the physiological stress response, after the exclusion of other known causes; behavioural therapy could improve the treatment outcome. Further studies need to support the finding.

**Conflict of interest:** The author declares no conflict of interest.

**Sources of funding:** This case report did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Disclosure:** The patient obtained consent to present her case for scientific purposes without disclosing any leading personal information.

## REFERENCE

1. **Singh S, Best C, Dunn S et al. (2013):** Abnormal uterine bleeding in pre-menopausal women. *Obstet Gynaecol Can.*, 35(5):473-5.
2. **Papanicolaou N (1933):** The sexual cycle in the human female as revealed by vaginal smears. *Am J Anat.*, 52:519-637.
3. **Hilgers T, Daly K, Prebil A et al. (1981):** Natural family planning III. Intermenstrual symptoms and estimated time of ovulation. *Obstet Gynecol.*, 58(2):152-5.
4. **Greenberg M (1983):** The meaning of menorrhagia: an investigation into the association between the complaint of menorrhagia and depression. *J Psychosom Res.*, 27(3):209-14.
5. **Hurskainen R, Aalto A, Teperi J et al. (2001):** Psychosocial and other characteristics of women complaining of menorrhagia, with and without actual increased menstrual blood loss. *BJOG.*, 108(3):281-5.
6. **Padda J, Khalid K, Hitawala G et al. (2021):** Depression and Its Effect on the Menstrual Cycle. *Cureus*, 13(7):e16532.
7. **Rie T, Nicholas J (2009):** GnRH Pulsatility, the Pituitary Response and Reproductive Dysfunction. *Endocrine J.*, 56(6):729-37.
8. **Morgan D, Ho K, Platell C (2020):** Incidence and Determinants of Mental Health Service Use after Bariatric Surgery. *JAMA Psychiatry*, 77(1):60-7.
9. **Jeremy K, Richdeep G, Michael L et al. (2013):** The Impact of Bariatric Surgery on Psychological Health. *Journal of Obesity*, 837989(2013):5.
10. **Bofill M, Lethaby A, Farquhar C (2019):** Non-steroidal anti-inflammatory drugs for heavy menstrual bleeding. *Cochrane Database Syst Rev.*, 9(9):CD000400.
11. **Matteson A, Rahn D, Wheeler T et al. (2013):** Nonsurgical management of heavy menstrual bleeding: a systematic review. *Obstet Gynecol.*, 121(3):632-43.