

Case report



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Clinically apparent depression in an adolescent with heavy menstrual bleeding: a case report

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Abstract

Heavy menstrual bleeding is a frequent occurrence among adolescent girls due to immaturity of the hypothalamic-pituitary-ovarian axis. Attending physicians usually focus on defining the aetiology and managing the medical complications, neglecting the psychosocial manifestations. We present the case of a 15-year-old teenager who presented with heavy menstrual bleeding requiring repeated blood transfusions. Assessment revealed florid psychosocial symptoms, diagnostic of adolescent major depression according to the diagnostic and statistical manual for mental disorders fifth edition. The patient was lost to follow-up during the COVID-19 pandemic; however, we hope to continue following her up for linkage with psychiatrists to make sure she is appropriately helped. This case is presented to illustrate the diagnostic and management gaps existent in adolescent girls with menstrual disorders. Longitudinal studies to further understand the psychosocial implications of heavy menstrual bleeding in adolescents are required. A holistic, concerted multi-disciplinary team approach is critical to successfully manage adolescent girls with heavy menstrual bleeding and attending clinicians must routinely incorporate assessment for psychosocial manifestations.

Introduction

This case is reported according to the CARE guidelines [1]. Adolescent girls frequently experience menstrual disorders including primary dysmenorrhoea, menstrual cycle irregularities and abnormal uterine bleeding (AUB), including heavy menstrual bleeding (HMB) [2]. HMB is defined qualitatively as self-reported excessive menstrual bleeding interfering with a woman's physical, social, psychological or material quality of life [3]. Formerly known as menorrhagia, which referred to monthly menstrual blood loss of greater than 80mls or longer than 7 days per menstrual cycle, HMB is now the preferred term by the American College of Obstetrics and Gynaecology (ACOG) [3] and other

bodies. The true incidence of HMB in the adolescent population is unknown because most only present when symptomatic and there is a paucity of longitudinal studies with objective menstrual flow assessment.

Besides affecting the physical function and productivity, HMB can significantly affect the psychosocial quality of an adolescent girl's life [4]. Evaluation and management must therefore not just focus on elucidating the aetiology and medical management, but must extend to evaluation of the psychosocial impacts of the HMB [5]. For school going adolescents, evaluating their performance at school and their interaction with peers may give important clues to the extent of the impact. We present and discuss the case of a 15-year-old adolescent who had HMB with resultant severe anaemia and developed clinical symptoms suggestive of depression, with reduced school and social performance. The case is presented to illustrate the existent diagnostic and management gaps in these cases and the need for a concerted holistic multidisciplinary team approach.

Patient and observation

History: a 15-year-old girl, who had never been pregnant, presented to the outpatients department in the company of her father. She had come for "review" after she had been lost to follow-up during a time of prolonged strike. She had no recent complaints; however, on further enquiry she reported that her last menstrual period, seven days prior, had been very heavy. She had used several packets of sanitary pads, with each pad heavily flooded. Her menstrual periods were irregular and unpredictable, with variable duration of bleeding, ranging from five to ten days. She had been admitted twice prior with symptomatic anaemia and had been transfused four units of blood during each admission. She was getting used to the heavy bleeding and was no longer bothered much. She did not take the pills prescribed to her on the last visit, because she did not want to take family planning pills. The systemic enquiry was unremarkable.

Her menarche was at 11 years and the periods had never been regular. They were associated with dysmenorrhoea, which required myprodon regularly. She was not yet sexually active and had not received HPV vaccines. She had no chronic diseases, no previous surgery and had no known drug allergies. She was the first child in her family and was attending boarding school. According to the father, their socioeconomic circumstances were average and they could afford a modest lifestyle. On enquiry into her performance at school, it was noted that her grades had dropped significantly over the past one to two years, she was gradually withdrawing from her friends and was no longer actively participating in social activities. Her father who was the regular guardian then recalled that he had been called to the school several times over her changing behaviour, which included not looking so well after her room, slowness in class, going to class in unclean uniforms and missing classes several times. She reportedly had remarkably lost interest in her surroundings and regular activities, which was worrisome to her teachers. The patient admitted that since she started experiencing the worsening HMB she had rather lost confidence and was always anxious and afraid she would start bleeding at any time and thus preferred isolating herself from her peers. She also admitted to excessive irritability in recent months, but had no suicidal ideation.

Examination: she looked rather unwell, sad and uncomfortable. She was very pale, had a tachycardia of 116 beats per minute and hypotensive with a blood pressure of 88/58 mmHg with a normal respiratory rate of 16 breaths per minute. She had long, unkempt but healthy nails in both her hands and feet and took time to respond to questions. Orientation in time, place and person was however normal. She was in Tanner stage 5 of physical development [6]. The rest of her physical examination was unremarkable.

Investigations: a urine pregnancy test was done, which was negative. Full blood count revealed a severe microcytic anaemia, with a haemoglobin level of 5 g/dl, a mean corpuscular volume of 65 fl

and a normal platelet count. A peripheral blood film was ordered, which confirmed microcytosis and hypochromasia. In consultation with haematologists, a clotting profile was done which was normal, but specific tests for von Willebrand's disease were not available. Previous pelvic ultrasound scan was noted to be normal. Chest radiograph was normal and an electrocardiogram showed a sinus tachycardia.

Management and outcome: diagnoses of severe anaemia secondary to HMB and depression were made and she was admitted into the gynaecological ward. She was transfused four units of packed red blood cells, each unit slowly intermittent with intravenous furosemide. In the ward, she was co-managed with the haematologists. The psychiatrist were consulted and unfortunately were unable to come and see the patient in the ward. She and her parents were counselled on the importance of adhering to all prescribed medicines and specifically that combined oral contraceptives were being prescribed not for family planning purposes but for controlling the bleeding. She was discharged on combined oral contraceptives and ranferon, and was to pass through the psychiatric unit for consultation before going home. She came into hospital at the beginning of the COVID-19 pandemic in Zimbabwe and was lost to follow-up.

Patient perspective: patient was lost to follow-up during the time of COVID-19 restrictions; however, we hope to follow her up in the future to further reassess her and report on her progress.

Discussion

We have presented a case of HMB in a teenager, leading to severe anaemia that required several blood transfusions. The patient had depressive symptoms, whose timing was temporally related to worsening episodes of HMB. However, despite the temporal relationship, a single case report is insufficient to conclusively ascribe association. Larger longitudinal studies in this neglected but critical area of adolescent gynaecology are desirable. With conclusive evidence, it may become

easier to incorporate psychosocial evaluations into routine care for adolescents with HMB and other menstrual disorders. Unidentified or untreated depression in adolescents is a major risk factor for suicide and can lead to increased rates of dropping out of school, smoking, substance misuse and obesity in other settings [7].

Investigating and managing the medical manifestations of heavy menstrual bleeding is straightforward in most cases. The aetiology of abnormal uterine bleeding across the spectrum of a woman's life is well described in the literature and the International Federation of Obstetrics and Gynaecology (FIGO) classify the causes as PALM-COEIN [3]. PALM (polyps, adenomyosis, leiomyomas and malignancy and hyperplasia) represents structural causes. COEIN represents the non-structural causes (coagulopathy, ovulatory dysfunction, endometrial, iatrogenic and not otherwise classified). Epidemiologically, the non-structural causes are more prevalent in the adolescent population [8]. Ovulatory disorders lead and an evaluation for clotting disorders is important as was done in our patient. Thus, a multidisciplinary team approach with haematologists is critical.

The psychosocial implications of this debilitating problem are often neglected as physicians focus on stopping and regularising the bleeding and restoring functional normalcy through repeated blood transfusions and haematinic prescriptions. Early identification of psychological symptoms may prevent florid psychosocial impacts that may have long-term sequelae, hence the need for physicians to incorporate these evaluations into routine clinical care for adolescents with HMB. The patient presented with symptoms of self-neglect, social isolation and impairment in social and academic function. She also appeared absent minded at times, lacked interest in self and surroundings and was rather slow to respond to issues. Though she reported no suicidal ideation, she reported increasing irritability. The anaemia is a confounding factor, being associated with both HMB and depression; however, in this case, the patient

indicated the temporal relationship between worsening HMB and the onset of her psychological symptoms. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), the patient satisfied the criteria for major depression in children and adolescents [7]. Table 1 lists the DSM-5 criteria for diagnosing this entity. Due to absence of a qualified psychiatrist, full evaluation for major depression was not done; however, her symptoms were quite suggestive. As normalcy returns to essential services in Zimbabwe post COVID-19 lockdowns, we hope that this patient will have a full psychiatric evaluation for urgent institution of appropriate management.

There is paucity of literature describing the psychological manifestations of HMB in the adolescent population, including case reports, case-control studies and cohort studies. Reasons for this may include rarity of cases or lack of attention by clinicians as they focus on medical management. The focus on a patient who comes in unwell like the one we presented is on getting her well, thus neglecting other aspects of her well-being. Models of care for patients are gradually shifting from medical models to bio-psychosocial models, viewing the patient holistically and should allow for complete patient evaluation and management. Multi-disciplinary team approaches incorporating paediatric gynaecologists, endocrinologists, psychologists and psychiatrists to concurrently manage both the HMB and psychosocial manifestations are desirable.

Conclusion

Adolescent girls presenting with HMB and other menstrual disorders must be routinely evaluated for symptoms and signs of psychosocial distress. Focusing on medical complications alone may result in clinicians missing important and debilitating psychological manifestations. A multi-disciplinary team approach incorporating several disciplines of medicine may therefore be desirable to optimise patient management. There is a strong need for larger longitudinal studies to elucidate

further the association between HMB and other menstrual challenges in young girls with psychosocial manifestations.

Consent and ethics: the parents provided written informed consent at the time of initial clinical evaluation, a copy of which is available. The Medical Research Council of Zimbabwe and the Joint Research Ethics Committee of the University of Zimbabwe and Parirenyatwa Group of Hospitals however require no approval for publication of case reports.

Competing interests

The authors declare no competing interests.

Authors' contributions

GM, SM and NS managed the case; GM developed the primary manuscript; RM made significant contributions to the manuscript; NS, SM, MIN and MGM provided technical guidance in case writing. All authors revised, edited and finalized the manuscript. All the authors have read and agreed to the final manuscript.

Table

Table 1: diagnostic and statistical manual of mental disorders, fifth edition criteria for diagnosing major depression in children and adolescents

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Table 1: diagnostic and statistical manual of mental disorders, fifth edition criteria for diagnosing major depression in children and adolescents

Symptoms	Comment
Depressed or irritable, cranky mood (outside being frustrated)	One of the two, and four other symptoms from the following
Loss of interest or pleasure	
Significant loss of weight or decrease in appetite (more than 5 percent) of body weight in a month or failure to meet expected weight gain	Any three of these in addition to the above or additional symptoms below
Insomnia or hypersomnia	
Psychomotor agitation or retardation	
Fatigue or lack of energy	
Feelings of worthlessness or guilt	
Decreased concentration or indecisiveness	
Recurrent thoughts of death or suicide	
Persistent sad or irritable mood	In addition to the above DSM-5 criteria, children and adolescents may have some of these symptoms
Frequent vague, non-specific physical complaints	
Frequent absences from school or poor performance in school	
Being bored	
Alcohol or substance abuse	
Increased irritability, anger or hostility	
Reckless behaviour	