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Case report

Adolescent Menorrhagia in Bangladeshi Girls: Unveiling Challenges and Treatment Approaches

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Abstract

Adolescent menorrhagia, characterized by excessive menstrual bleeding, is a prevalent but under-recognized condition in Bangladesh. This case report focuses on a 15-year-old girl diagnosed with severe menorrhagia, highlighting the challenges in timely diagnosis, treatment, and management. The patient presented with prolonged, heavy menstrual bleeding over six months, leading to symptoms of iron-deficiency anemia and significant psychological distress. Initial assessments indicated no anatomical anomalies but revealed underlying hormonal imbalances. The patient's condition was further complicated by cultural stigmas surrounding menstruation, which delayed seeking medical attention. Despite available treatment options such as hormonal therapy and iron supplementation, the patient faced barriers in accessing appropriate care. Limited healthcare awareness, societal misconceptions about menstruation, and reluctance to discuss menstrual health were significant obstacles. The patient was ultimately treated with a combination of hormonal therapy (oral contraceptives) and iron supplements, leading to a marked improvement in both menstrual bleeding and anemia. Psychological counseling was also provided to address the emotional distress caused by her condition. This case underscores the importance of early diagnosis and intervention in managing adolescent menorrhagia. It highlights the need for better healthcare provider training, especially in recognizing and treating menstrual disorders in adolescents. Moreover, it stresses the need for public education to reduce stigma and encourage open dialogue about menstrual health. By addressing these barriers, we can improve the management of menorrhagia in adolescent girls in Bangladesh, ultimately improving their quality of life and overall health outcomes.

Key word: Adolescent menorrhagia, Hormonal therapies (OCP), Cultural stigma.

Introduction

Menorrhagia, defined as excessive menstrual bleeding, is a common yet often under-recognized concern among adolescents.[1] This condition can have a significant impact on physical health, emotional well-being, and overall quality of life.[2] Adolescents like Ms. Reshma, a 17-year-old girl presenting with a three-month history of heavy menstrual bleeding and iron deficiency anemia, face unique challenges in managing menorrhagia. Prolonged or heavy menstrual bleeding often leads to complications such as anemia, which in turn can cause symptoms like fatigue, dizziness, and difficulty participating in daily activities.[3] These symptoms further exacerbate the physical and emotional challenges faced by affected adolescents.[4] The diagnosis and management of menorrhagia in adolescents require careful consideration of both primary and secondary causes. Primary causes include hormonal imbalances, such as those seen in anovulatory cycles, while secondary causes may involve structural abnormalities or underlying medical conditions, such as coagulation disorders or thyroid

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dysfunction.4 In Ms. Reshma's case, thorough history-taking revealed no structural abnormalities but highlighted the possible role of a hormonal imbalance, which was later confirmed through diagnostic testing. This case underscores the importance of a comprehensive evaluation that includes a detailed medical history, appropriate diagnostic investigations, and an individualized treatment plan tailored to the patient's specific needs. One of the significant barriers in the management of menorrhagia in adolescents is a lack of awareness about what constitutes normal menstrual patterns. Many young women, like Ms. Reshma, may not recognize that their symptoms require medical attention or may feel embarrassed to seek help due to the societal stigma surrounding menstruation. Patient education is therefore critical, not only in promoting awareness of normal menstrual health but also in empowering young patients to seek timely medical care. A multi-faceted approach that includes medical treatment, such as hormonal therapy or iron supplementation, along with patient education, can greatly improve outcomes for adolescents with menorrhagia.[5]

This case study of Ms. Reshma highlights the complex interplay of physiological, psychological, and societal factors that influence the management of menorrhagia in young women. By examining her case, we aim to emphasize the importance of early diagnosis, the impact of iron deficiency on overall health, and the need for a holistic, multidisciplinary approach to treatment. Ultimately, addressing the unique challenges of adolescent menstrual health is essential for improving both physical and emotional well-being in young women.[6]

Case Summary

Ms. Reshma (pseudonym), a 17-year-old female, presented to the outpatient department of SSMC with complaints of persistent menorrhagia over the past three months. Menorrhagia, characterized by heavy or prolonged menstrual bleeding, can significantly impact an adolescent's quality of life, both physically and emotionally. Ms. Reshma reported that her menstrual cycles, which previously lasted 5–7 days, had recently extended to 10–14 days. During her peak bleeding days, she needed to change sanitary pads every hour, leading to fatigue and dizziness, particularly during menstruation. She denied experiencing associated symptoms such as severe abdominal pain, fever, or any changes in bowel or urinary habits, which helped narrow down potential causes. Her medical history revealed menarche at age 13 with regular cycles every 28–30 days, and no previous episodes of heavy bleeding or gynecological issues. Notably, her mother had a similar history of heavy menstrual bleeding but had never sought medical attention. On physical examination, Ms. Reshma appeared pale but in no acute distress. Vital signs were stable (BP: 100/60 mmHg, pulse: 80 bpm), and her abdominal and pelvic exams were unremarkable, with no active bleeding noted at the time of examination.

Diagnostic Workup

Laboratory investigations revealed mild anemia (hemoglobin 10.5 g/dL) and depleted iron stores (low serum ferritin), confirming iron deficiency anemia secondary to chronic blood loss. Coagulation studies (PT, aPTT) were normal, ruling out coagulopathy. A pelvic ultrasound showed a normal-sized uterus with no structural abnormalities, such as fibroids or polyps, which could contribute to the bleeding. Based on these findings, a diagnosis of primary menorrhagia secondary to iron deficiency anemia was made.

Management Plan

Ms. Reshma was started on oral iron supplementation (Ferrous sulfate 325 mg daily) to address her anemia and replenish iron stores. Dietary recommendations included increasing iron-rich foods (e.g., lean meats, beans, leafy greens) and pairing these with vitamin C-rich foods (e.g., citrus fruits) to enhance absorption. Hormonal therapy with combined oral contraceptives (Ethinyl estradiol and Levonorgestrel) was initiated to regulate her menstrual cycles and reduce bleeding volume. The benefits and potential side effects of hormonal therapy were discussed, and Ms. Reshma was advised to report any unusual symptoms. A follow-up appointment was scheduled in four weeks to evaluate her response to treatment, assess adherence to the iron regimen and hormonal therapy, and monitor her overall well-being.

Follow-Up and Outcome

At her follow-up visit, Ms. Reshma reported significant improvement in her symptoms. She remained symptom-free for the 14 days following her initial visit, with no active bleeding or further episodes of dizziness or fatigue. Laboratory results indicated a notable improvement in hemoglobin levels, with a reduction in CRP to 6 mg/L. All other routine tests, including serum creatinine and ESR, were normal.Given the positive response, Ms. Reshma continued her treatment plan with close monitoring. Her anemia was effectively managed, and the menorrhagia significantly improved. She was educated on the importance of continued follow-up care and adherence to her prescribed regimen.

Discussion

Ms. Reshma, a 17-year-old female presenting with menorrhagia and iron deficiency anemia, highlights several important considerations in the diagnosis and management of adolescent menstrual disorders. Menorrhagia, defined as excessive menstrual bleeding, can significantly impair quality of life, leading to both physical and psychological

consequences. For Ms. Reshma, the transition from a typical menstrual cycle lasting 5-7 days to a prolonged 10-14 days, along with the need for frequent pad changes, suggests severe menstrual dysfunction, potentially leading to anemia due to chronic blood loss.

Diagnostic Process and Differential Diagnosis

The diagnosis of menorrhagia in adolescents requires careful consideration of both primary and secondary causes. In Ms. Reshma's case, the absence of severe abdominal pain, fever, or systemic symptoms, coupled with normal findings on pelvic ultrasound, helped rule out common secondary causes such as fibroids, polyps, or structural abnormalities.[4] Structural causes are more commonly encountered in older women, but in adolescents, these are less frequent, making primary causes—such as hormonal imbalances or coagulation disorders—more likely. This is consistent with findings from Munro et al., who suggest that while structural abnormalities are frequent in older women, they are less common in adolescents.[7] A thorough clinical history was instrumental in guiding the diagnostic process. Ms. Reshma's family history of heavy menstrual bleeding raised concerns about potential hereditary bleeding disorders, such as von Willebrand disease, which could predispose her to menorrhagia. This emphasizes the importance of a comprehensive family history, particularly when coagulopathies are suspected. While her laboratory findings confirmed mild anemia and low ferritin levels, ruling out other causes of bleeding through history and imaging allowed for a more focused diagnostic pathway.

Treatment Response and Clinical Management

Ms. Reshma's treatment regimen included both medical and educational interventions. After confirming iron deficiency anemia with laboratory testing, she was started on oral iron supplementation (Ferrous sulfate). Iron supplementation is crucial in correcting anemia and preventing complications such as cognitive impairment and reduced exercise tolerance, as noted by the World Health Organization (WHO, 2021). The positive clinical response to iron supplementation in Ms. Reshma underscores the importance of timely management in preventing long-term sequelae associated with untreated anemia. In parallel, hormonal therapy with combined oral contraceptives (COCs) was initiated to address the menorrhagia itself. COCs are a well-established treatment for adolescent menorrhagia as they help regulate menstrual cycles and reduce menstrual blood loss.[8] Ms. Reshma responded well to the combination of hormonal therapy and iron supplementation, with a significant improvement in her menstrual cycle and a reduction in her anemia-related symptoms, including dizziness and fatigue. The successful resolution of her symptoms after initiating these interventions aligns with previous research demonstrating that systematic follow-up care and individualized treatment plans significantly improve outcomes in adolescent patients with menorrhagia.[9] Regular follow-ups allowed for ongoing monitoring of hemoglobin levels, ensuring that Ms. Reshma's anemia was corrected, and also provided an opportunity to reassess the effectiveness of the hormonal therapy.

Patient Education and the Role of Awareness

Equally important in Ms. Reshma's management was patient education. Adolescents often lack awareness of what constitutes normal menstrual patterns, which can lead to delays in seeking medical help. Studies, including those by Kuhlmann & his group has shown that when patients are educated about their condition and the importance of adherence to treatment, they experience better outcomes. In Ms. Reshma's case, providing clear information about the nature of her condition, the role of iron supplementation, and the purpose of hormonal therapy was essential in ensuring that she adhered to her treatment plan.[10] Educating both patients and families about menstrual health is vital in reducing stigma and improving early intervention.[11]

The Role of Multidisciplinary Care

The case of Ms. Reshma also illustrates the need for a multidisciplinary approach to managing adolescent menorrhagia. While the primary focus of treatment in her case was medical—addressing both the anemia and excessive bleeding—a broader approach that includes psychological support, particularly in addressing the emotional distress caused by chronic menstrual problems, could further enhance the patient's overall well-being. Adolescents with menorrhagia often experience significant psychosocial strain, including anxiety and depression, which can affect their quality of life. Incorporating psychological counseling or support services into the treatment plan could provide additional benefits in this patient population.[12]

Conclusion

In summary, the case of Ms. Reshma highlights the clinical complexities involved in diagnosing and managing menorrhagia in adolescents. It underscores the significant physical and psychological burden of this condition, particularly when compounded by iron deficiency anemia. This case emphasizes the critical importance of a thorough and systematic approach to diagnosis, which includes detailed history-taking, appropriate diagnostic investigations, and the consideration of both primary and secondary causes of excessive bleeding. Ms. Reshma's successful management through a combination of hormonal

therapy and iron supplementation demonstrates the efficacy of targeted treatment in alleviating symptoms of menorrhagia and correcting anemia. However, this case also reveals that timely medical intervention alone is insufficient; patient education plays a pivotal role in empowering young women to recognize abnormal menstrual patterns and seek timely healthcare. The societal stigma surrounding menstrual health often delays intervention, making awareness and education essential components of management. The experience of Ms. Reshma emphasizes the need for healthcare providers to foster open, non-judgmental communication with adolescent patients, ensuring that they feel comfortable discussing menstrual health concerns. In this context, healthcare providers should receive targeted training to recognize and address adolescent menstrual disorders more effectively. Moreover, given the multi-factorial nature of menorrhagia, a multidisciplinary approach—integrating gynecological care, nutritional support, and psychological counseling—should be considered to address both the physiological and emotional aspects of this condition. This case also highlights broader implications for adolescent healthcare in regions where menorrhagia may be under-diagnosed or mismanaged due to cultural taboos and lack of awareness. Future research should focus on evaluating the long-term outcomes of various treatment approaches for adolescent menorrhagia and exploring strategies to overcome cultural and healthcare system barriers. By prioritizing both medical and educational interventions, we can improve the health and well-being of young women experiencing menorrhagia, ultimately leading to better long-term reproductive health outcomes.

Conflict of interest

The authors hereby declare that no conflict of interest exists.

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