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A RARE CASE OF ABNORMAL UTERINE BLEEDING IN A PATIENT WITH RHEUMATOID ARTHRITIS AND IATROGENIC CUSHING SYNDROME COMPLICATED BY HYPERTENSION AND SEVERE ANEMIA

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ABSTRACT

A 34-year- old unmarried female presented with complaints of heavy menstrual bleeding for 8 months 8 day, associated with passage of clots and lower abdominal pain. The bleeding was sudden in onset and gradually progressive, requiring 4-5 pad changes per day. She had a known history of Rheumatoid Arthritis for one year (Anti-CCP positive) on Methotrexate 7.5mg once weekly and Hydroxychloroquine 200mg twice daily she was also known case of hypertension on Amlodipine 5mg once daily and had developed Iatrogenic Cushing's syndrome secondary to prolonged corticosteroid use (prednisolone 10mg once daily) she had a recent history of severe anemia requiring two units of blood transfusion. On examination, the patient was hemodynamically stable. Per abdominal examination revealed a 20-week size mass corresponding to a uterine enlargement measuring approximately 8.8cm, nontender in nature. Ultrasonography of the abdomen and pelvis showed a submucosal fibroid measuring 7.3x6.9 cm with increased internal vascularity. The patient was managed with antifibrinolytic (tranexamic acid), iron supplementation, folic acid, antihypertensives, corticosteroids, disease – modifying antirheumatic drugs, and supportive I.V fluids. She subsequently underwent laparoscopic/ open myomectomy. The case highlights the complex interplay between abnormal uterine bleeding secondary to fibroid uterus, chronic auto-immune disease, long-term steroid therapy leading to iatrogenic Cushing's Syndrome, and resultant severe anemia. Early diagnosis, multidisciplinary management, and careful medication review are essential to optimize outcome in such high-risk gynecological cases.

KEYWORDS: Abnormal uterine bleeding (AUBL), submucosal Fibroid, Rheumatoid Arthritis, Iatrogenic Cushing's Syndrome, Iron Deficiency Anemia, Myomectomy, Methotrexate, Corticosteroids.

INTRODUCTION

[1]Rheumatoid arthritis (RA) is a lifelong, systemic autoimmune disease that affects women three times more frequently than men, mainly characterised by synovitis of small joints, especially of hands and feet. The aetiology of RA is still incompletely known; a multiplicity of genetic, environmental, immunologic and psycho-neuroendocrine factors like dysfunction of the hypothalamic-pituitary-adrenal (HPA-) axis plays a role.[2] Exogenously administered synthetic glucocorticoids usually suppress these processes and ameliorate the symptoms and signs of rheumatoid arthritis.[3] Exposure to chronic glucocorticoid (GC) excess produces marked changes in body composition, reducing bone mass and lean body mass, and favouring central fat accumulation. Cushing 's syndrome (CS) is a rare endocrine disease characterized by cortisol hypersecretion, mainly by a pituitary tumour (Cushing' s

disease) or, less frequently, by an adrenal or an ectopic neuroendo-crine-tumor. Changes in body composition in CS include increased fat mass, decreased bone mass, thinning of the skin, and reduced lean mass.[7,5,6] Cushing syndrome is a relatively uncommon endocrine disorder characterized by the excessive elevation of cortisol (also known as hydrocortisone) levels within the body. The most common cause of cushingoid features is iatrogenic corticosteroid use, while some herbal preparations can also increase circulating corticosteroid level leading to Cushing syndrome. Cushing syndrome can be interchangeably called hypercortisolism. The most prevalent etiological factor contributing to Exogenous Cushing's syndrome (ECS) is the type of Cushing syndrome (CS) affects persons who use glucocorticoids, often known as corticosteroids or steroids. Cushing's syndrome has two primary aetiologies: endogenous hypercortisolism and exogenous hypercortisolism. The most frequent cause of Cushing's syndrome, known as exogenous hypercortisolism, is primarily iatrogenic and arises from long-term glucocorticoid use.[8] Uterine fibroids, or leiomyomas, are benign neoplasms of smooth muscle tissue that arise from the myometrium. Several factors have been proposed to influence an individual's risk for developing fibroids, including age of men arche, obesity, high blood pressure, gravidity, family history of fibroids and race.

[9]Uterine fibroids are heterogeneous in size, number, location, and clinical presentation. The most common symptoms include abnormal uterine bleeding (AUB), heavy menstrual bleeding (HMB), pelvic pain, bulky symptoms, and infertility, which affect patient's quality of life (QoL). Abnormal uterine bleeding that is caused by UFs is classified by the International Federation of Gynaecology and Obstetrics (FIGO) as AUB leiomyoma (AUB-L).

CASE P RESENTATION

A 25year old female patient admitted in the OBG department unit C 509 postnatal ward in Karnataka Medical College and Research Institute (KMCRI), Hubballi on 14 January 2026.

Chief Complaints

Heavy Menstrual bleeding since 8 months 8 days.

History of presenting illness

A young unmarried nulligravida female presented with complaints of heavy menstrual bleeding for the past 8 months 8 days. The bleeding was sudden in onset and gradually progressive. she reported using 4-5 pads per day and passage of clots, associated with progressive fatigue, dizziness, and decreased functional capacity. The bleeding was associated with lower abdominal pain. Her menstrual cycles were irregular with 5-6 days of heavy flow.

She was previously admitted for severe anemia and received two pint of blood transfusion. Past Medical and Medication History.

The Patient is a known case of: Rheumatoid arthritis diagnosed at the age of 15 years and had been on long-term corticosteroid therapy along with disease-modifying antirheumatic drugs for past 10 years. Over the course of treatment, she developed features suggestive of iatrogenic Cushing syndrome, including weight gain, moon facies, central obesity, abdominal striae, and menstrual irregularities. She was also hypertensive for the past two years and was on regular antihypertensive medication.

General Examination

On presentation, she appeared markedly pale and clinically weak. General examination reveled moon facies, a dorsocervical fat pad, central obesity and wide violaceous striae over abdomen.

Vital Parameters

Temperature	98ºF (normal)
Pulse rate (PR)	86 beats per minute
Blood Pressure (BP)	150/90 mmHg
Respiratory rate (RR)	16 breaths per minute
SpO_2 (oxygen saturation)	98% on room air

Local Examination

Per abdominal examination revealed a palpable mass corresponding to a 20-week size gravida uterus. The mass non-tender and firm in consistency.

Systemic examination

Cardiovascular system	Normal heart sounds (s1,s2) with no murmur
Respiratory system	Normal vesicular breath sounds with no added sound, indicating no lung abnormalities
Per Abdomen	Mass of 20 wks. size gravida uterus approx. measuring 8x8 cm , non tender

Laboratory Investigations Hematology report

Parameters	Observed Values	Normal Values	Alarms
HGB	6.8	12-15 g/dl	Decreased
TLC	11,340	4000-11000cells/ul	Increased (mild)
Neutrophils	70	40-70%	Increased
PCV	32.6	36-46%	Decreased
MCV	66.4	80-100fL	Decreased
MCH	20.1	27-33pg	Decreased

MCHC	30.3	32-36g/dl	Decreased
RDW-CV	28.8	11.5-14.5%	Decreased

Inflammatory Marker

C-reactive protein (CRP)	70.6	< 5 mg/dl	Increased

Coagulation Profile

Prothrombin time (PT)	16.6	11-15 seconds	Increased(mild)
Activated partial thromboplastin time (APTT)	31.4	25-35 seconds	
D-dimer	690	< 500 ng/mL	Increased

Liver function

Total bilirubin	2.1	0.3-1.2 mg/dL	Increased
Direct bilirubin	0.7	0-0.3 mg/dL	Increased
Indirect bilirubin	1.4	0.2-0.8 mg/dL	Increased

Based on clinical presentation, laboratory findings and imaging, the patient was diagnosed with Abnormal uterine bleeding -I with rheumatoid arthritis with Iatrogenic Cushing's syndrome with hypertension and severe anemia. Investigations include low HGB, PCV, MCV, MCH & MCHC with markedly elevated RDW clearly indicate microcytic hypochromic anemia, it is typically iron deficiency anemia, most likely secondary to chronic blood loss due to heavy menstrual bleeding caused by submucosal fibroid. The TLC and CRP is markedly increased suggest an ongoing inflammatory state. This can be attributed primarily to her underlying rheumatoid arthritis, which is a chronic inflammatory autoimmune disorder. In addition, long term corticosteroid therapy can cause demarginating of neutrophilia, leading to apparent neutrophilia. Therefore the elevated neutrophils are likely due to combination of active inflammation and steroid effect.

Pelvic ultrasonography demonstrated an enlarged uterus with a large posterior wall intramural fi roid measuring 9x9x7 cm. Additionally, two posterior wall sub serosal fibroids measuring 2x2cm and 2x1cm were noted. The large intramural fibroid was causing distortion of the uterine cavity, while both ovaries appeared normal.

After stabilization and correction of anemia, fertility-preserving surgical management in the form of myomectomy was discussed as a definitive treatment option. The patient showed clinical improvement with rising hemoglobin levels, reduced menstrual blood loss, and better hemodynamic stability during her hospital stay.

Fig1(A)

Fig1(A)

Fig1(B)

Fig1(B)

Fig1:A&B X ray examination showing the Rheumatoid Arthritis.

Fig2(A)

Fig2(B)

Fig2(B)

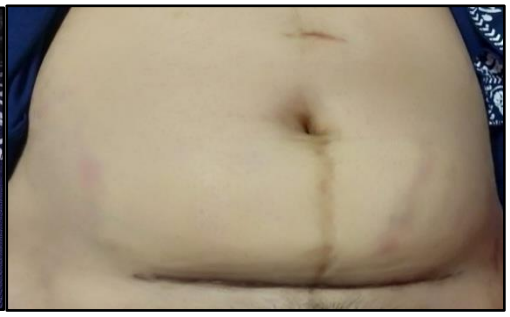

Fig2(C)

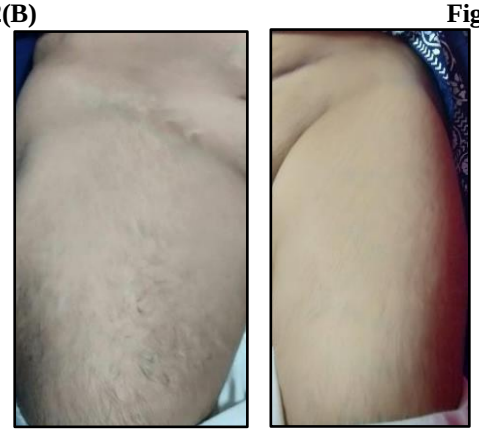

Fig.2 (D)

Fig 2: Showing the symptoms of Iatrogenic Cushing Syndrome Fig2:(A)Moon face , (B) Buffalo hump,(C) central obesity, (D)Rt.Lt leg striae marks.

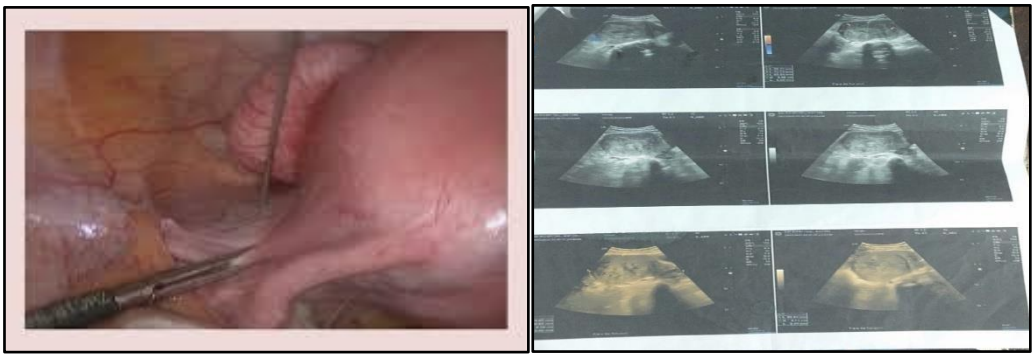

Fig3(A)

Showing uterine leiomyoma Xray and inoperative images

TREATMENT CHART

Post operative Medications

Sr.No	Medication	Frequency	Dose	Route of administration
01	Inj. Ceftriaxone (Xone)	1-0-1	1g	Iv
02	Inj. Metronidazole	1-1-1	100ml	Iv
03	Inj. Paracetamol	1-0-1	1g	Iv
04	Inj. Pantoprazole	1-0-1	40mg	Iv
05	Inj. Hydrocortisone	1-0-1	100mg	Iv
06	Inj. Tranexamic acid	1-1-1	500mg	Iv

Postoperative medications manage bleeding, infection, pain, and other complications. Intravenous inj. Ceftriaxone with Inj. Metronidazole prevents or treats infections, Inj. Paracetamol controls pain and fever, inj. Pantoprazole prevents gastric injury, Inj. Hydrocortisone reduces inflammation and stress effects, and Inj. Tranexamic Acid minimizes bleeding.

DISCHARGE MEDICATION

Sr.No	Medication	Frequency	Dose	Route of administration
01	T. Ferrous sulphate	1-0-0	325mg	Po
02	T.B complex / calcium	0-1-0		Po
03	T. Amlong	1-0-0	5mg	Po
04	T. Metronidazole	1-0-1	400mg	Po
05	T. Paracetamol	1-1-1	500mg	Po
06	T. Pantoprazole	1-0-0	40mg	Po
07	T. Hydroxychloroquine	1-0-1	200mg	Po
08	T. Methotrexate	Ow	7.5mg	Po
09	T. Prednisolone	0-0-1	5mg	
10	T. Vitamin c	Bd		Po
11	T. Zinc	0-0-1		Po

The prescribed discharge medications are essential for continued recovery at home: Ferrous sulphate is given to correct anemia and improve hemoglobin levels; B-complex with calcium supports nutritional status and bone health; Amlong (amlodipine) maintains blood pressure control; Metronidazole is prescribed to complete treatment of infection; Paracetamol (PCT) provides symptomatic relief of pain and fever; Pantoprazole (Pan) reduces gastric acidity and protects the stomach; and for rheumatoid arthritis, Hydroxychloroquine, Methotrexate, and Prednisolone are disease-modifying and anti-inflammatory agents that control disease activity, reduce joint inflammation, and prevent progression, while Vitamin C and Zinc aid in immune support and overall recovery.

DISCUSSION

Cushing's syndrome in patient with rheumatoid arthritis, and uterine fibroid represent an unusual clinical coexistence in which chronic hypercortisolism often due to prolonged corticosteroid therapy used for autoimmune control- may mask inflammatory manifestations of rheumatoid arthritis while simultaneously contributing to metabolic, hormonal, and immunological alterations that can influence the growth dynamics of uterine fibroid .

[1]GC are widely used in the treatment of patients with RA since the initial report by Hench et al. that cortisone dramatically ameliorated the symptoms of RA. A period of enthusiasm in the 50% of the effects of GC was followed by a long period of cautious application of GC for RA, because of the many side effects.[4] AUB is a prevalent condition affecting 10-30% of women of reproductive age. The International Federation of Gynaecology and Obstetrics defined the most common causes of abnormal uterine bleeding using the acronym PALM-COEIN. AUB and HMB in the presence of UFs include the expanded endometrial surface area, enlarged uterine cavity, or dilated blood vessels on fibroid surfaces.

Our patient reported irregular menstrual cycles and heavy bleeding, requiring frequent pad changes. Initial imaging with pelvic ultrasound showed an enlarged uterus with multiple fibroids and a thickened endometrium. [4]Hysterectomy has been proven to have the highest improvement in QoL.[6-7] Cushing syndrome, while exogenous causes include external delivery of corticosteroids. Exogenous Cushing's syndrome is a disorder that arises from extended exposure to the therapeutic use of corticosteroids. Another name for them is steroid-induced. CS is caused by chronic hypercortisolism resulting in a characteristic clinical phenotype and multisystem morbidity. The phenotypic characteristics of CS are well described, such as facial plethora, rounded face, decreased libido, thin skin, menstrual irregularity, hypertension, hirsutism, depression/ emotional lability, glucose intolerance, weakness, and osteo porosis. Surgery is the treatment of choice for underlying causes of hypercortisolism, and

pharmacological therapy has still a crucial role in inoperable patients.

Few studies showed a resolution of exogenous hypercortisolism and the following exacerbation of an autoimmune diseases like coeliac disease, rheumatoid arthritis, sarcoidosis, SLE, polymyalgia rheumatica and thyroid diseases in our study, rheumatoid arthritis was the most commonly observed autoimmune condition following withdrawal of excess glucocorticoid exposure.

CONCLUSION

This case describes a 25- year -old female with abnormal uterine bleeding due to submucosal fibroid, complicated by rheumatoid arthritis, iatrogenic Cushing syndrome from prolonged steroid use, hypertension and severe iron deficiency anemia. Chronic corticosteroid therapy contributed to hormonal imbalance and Cushingoid features, worsening menstrual irregularities. persistent heavy bleeding led to symptomatic anemia requiring transfusion.

A multidisciplinary approach involving medical stabilization, steroid review, anemia correction and definitive surgical management (myomectomy) resulted in clinical improvement, emphasizing the need for individualized and closely monitored care in complex comorbid conditions.

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