

Case Report



Metronidazole Induced Delayed Hypersensitivity Reaction

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Received: 10-03-2023; **Revised:** 20-05-2023; **Accepted:** 26-05-2023; **Published on:** 15-06-2023.

ABSTRACT

Metronidazole is a nitro imidazole antibiotic used in the treatment of anaerobic infections. We present a case of 40 year old female patient admitted in hospital with complaints of dysmenorrhea since 3 years. Up on appropriate investigations decided to undergo Total abdominal hysterectomy. Metronidazole was indicated as pre-operative treatment. After 2 days of administration of metronidazole patient experienced delayed hypersensitivity reaction. Managed with corticosteroid therapy.

Keywords: Total abdominal hysterectomy, Metformin, endometriosis, Metronidazole.

QUICK RESPONSE CODE →

DOI:
10.47583/ijpsrr.2023.v80i02.009



DOI link: <http://dx.doi.org/10.47583/ijpsrr.2023.v80i02.009>

INTRODUCTION

Metronidazole is a broad spectrum antibiotic used to treat anaerobic infections¹. Compare to other class of antibiotics such as penicillins and cephalosporins, metronidazole rarely produces anaphylactic reaction². Metronidazole was used in the treatment of broad range of bacterial infections such as central nervous system infections (meningitis, brain abscess), bone and joint infections, intestinal amoebiasis, bacterial septicemia, gynecological infections (bacterial vaginosis, endometriosis and tubo-ovarian abscess), lower respiratory tract infections, skin structure infections and used as prophylactic treatment during surgery³. Here presents a case of metronidazole induced delayed reaction of rashes and bilateral limb swelling.

Case Presentation

A 40-years old female patient was admitted to the gynecology department with chief complaints of (c/o) dysmenorrhea (heavy menstrual bleeding associated with pain in abdomen) for 3 years. Her menstrual history was 10-12 days/30-60 days, changes 5-6 cloths/day, her obstetric history found to be P₄L₄ and had a bilateral tubectomy 2 years back and with comorbid condition of diabetic administering Tab. Metformin 500mg plus Tab. Glimperide 1mg BD from past 2 years. Based on c/o, surgeon has undergone ultrasound of abdomen (Grade 1 fatty liver, uterus- normal and endothelial thickening of 7mm (proliferative endometrium), right ovary- e/o

3.3*2.4 cm well defined anechoic cystic lesion with septa of thickness 2.8mm noted), 2d Echo (fair LV systolic function), CA125 (ovarian cancer marker)-6.08 and remaining complete blood picture, renal functions and liver function tests found to be normal.

Surgeon has decided to perform surgical procedure of Total Abdominal Hysterectomy (TAH) after 2 days of admission. Pre-Operative Instructions has started with D and C (Dilation and Curettage) procedure and medications such as:

1. Inj. Metronidazole 100CC IV TID
2. Inj. Ranitidine 2CC IV BD
3. Inj. Cefotaxime 1gm IV BD
4. Inj. Tetanus Toxoid 0.5CC
5. Tab. Bisacodyl 2 tabs H/S
6. Tab. Alprazolam 0.5 mg H/S
7. IV Fluids and Inj. Lignocaine test dose
8. Inj. Paracetamol 1gm infusion TID for 2 days

After D and C procedure alprazolam and Bisacodyl has avoided. Bilateral limb swelling, rashes over right forearm which was induced due to metronidazole (delayed hypersensitivity reaction), leucocyte count was found to be 18 [10³/UL] and managed with Inj. Pheniramine maleate 45.5mg/2ml and Inj. Hydrocortisone 100mg.

TAH was postponed for six days till the rashes subsided. Before the surgery, guidance on the metronidazole response and diabetes-related endocrinology issues was obtained from the general physician. Following surgery, patients are prescribed antibiotics (ceftriaxone for 2 days, followed by meropenem 1 gm and clindamycin for 5 days), anticoagulants (enoxaparin 40 mg for 5 days), and intravenous tranexamic acid 500 mg for 2 days to prevent bleeding. After staying in the hospital for 12 days, the



patient was discharged and given recommendations for a high-protein diet as well as supplements of calcium, vitamin C, iron (Fe+2), and other vitamins.

ADR (Adverse Drug Reaction) Assessment scale

Suspected Drug interactions	Hart wig Severity assessment scale	Narnjo's probability Assessment scale
Metronidazole Induced rash	Level-4 (a) Moderate	6 (probable)

Hartwig severity assessment scale

Level-4(a) Moderate: Adverse drug reaction requires that the suspected drug should be discontinued or changed and other treatments are required. Due to ADR increases the length of stay by at least one day.

Naranjo's probability assessment scale

Casualty assessment of metronidazole was probable as per WHO-casualty assessment scale.

DISCUSSION

In adults, most of the anaphylactic reactions caused by analgesics and Antibiotics⁴. Metronidazole used as a prophylactic treatment for surgical site infections. In this case metronidazole was prescribed prior to D and C procedure. There are few reports of metronidazole induced adverse effects such as seizures, dysarthria, ataxic gait (failure of muscle coordination), cerebral dysfunction, cochleotoxicity, vestibulotoxicity and cerebral dysfunction⁵. Hypersensitivity reaction to metronidazole was rare and even though they are becoming frequent because of use of metronidazole with combination of other antibiotics [6]. Few reports on metronidazole induced hypersensitivity reactions include allergic contact dermatitis, persistent drug eruptions, respiratory crisis, systemic reactions, anaphylactic reaction, Stevens-Johnson syndrome and serum sickness reactions

CONCLUSION

We report a case of metronidazole-induced delayed hypersensitivity reaction where a patient was admitted to the hospital with complaints of dysmenorrhea and surgeons decided to perform TAH. Surgery was delayed because of the development of rashes. The patient got stabilized with corticosteroid therapy. Finally, we conclude that a skin prick test is necessary to test allergies related to food, drugs, and chemicals. The surgeon didn't perform an SPT test as she doesn't have a history of drug allergies.

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Source of Support: The author(s) received no financial support for the research, authorship, and/or publication of this article.

Conflict of Interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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