

Assessment of Prescription of Metronidazole among the Doctors of District Mirpurkhas.

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Abstract:

Background: Metronidazole is a Nitroimidazole antibiotic medication used particularly for anaerobic bacteria and protozoa. It is on the WHO's list of essential medicines (a list of most important medication needed in a basic health system)

Objectives: Aim was to assess the indications with which metronidazole is being prescribed by the doctors of Mirpurkhas. To set necessary recommendations regarding prescription of drug and emergence of drug resistance. Methodology: A cross sectional study was conducted among the doctors of Mirpurkhas in which pre tested questionnaire was distributed to 80 doctors which are practicing in different hospitals of Mirpurkhas.

Results: There were 56 medical officers and 24 Postgraduates. 53/80 thought that it was anti diarrheal, 50/80 said anti bacterial, 46/80 said anti protozoal, 27/80 said anti helminthic, 12/80 said anti fungal, 6/80 said antiviral, 3/80 said mucosal protective agent. 75/80 said that they would prescribe metronidazole in any type of diarrhoea, 56/80 said Food poisoning, 29/80 said IBS and amoebiasis, 26/80 anaerobic Bacterial infection, 24/80 IBD, 15/80 said intra abdominal infection 12/80 said bacterial septicemia, 7/80 said skin infection, 3/80 Said bones and joint infection & CNS infection, 1/80 said Trichomoniasis, 1/80 RTI. 43/80 knew the side effects of the drugs (skin allergy, bitter taste, nausea, vomiting, vertigo, constipation) 27/80 didn't. 39/80 knew about the contraindications (hepatitis, pregnancy, unconsciousness, Constipation), 41/80. Regarding the Substitute of metronidazole 62/80 said other antibiotics (Levofloxacin, moxifloxacin) 18/80 said antifungal.

Conclusion: This study reflects that there is unnecessary prescription of Metronidazole among the doctors of Mirpurkhas. Most commonly being prescribed for diarrhea, Food poisoning, Amebiasis and IBS. It is critical that 27 doctors didn't know the side effects and 41 were not aware of the contraindications.

Key Words: Metronidazole, Antibiotic, Abuse, Diarrhea,

Introduction:

Metronidazole has been used for the treatment of infections for >45 years and is still successfully used for the treatment of trichomoniasis, amoebiasis, and giardiasis¹. The first report on the effect of metronidazole for the management of anaerobic infections was published in 1962 by Shinn². It was originally indicated for the management of infection caused by *Trichomonas vaginalis* and was then shown to be effective against other protozoal infections, such as amoebiasis and giardiasis¹. Tally and colleagues showed that metronidazole is useful in the treatment of systemic anaerobic infections, including those caused by *Bacteroides fragilis*^{3,4}. Later, metronidazole was introduced for the management of *Clostridium difficile* infection and is still recommended as an alternative to vancomycin for treatment of this infection. Metronidazole was shown to be efficacious against *En-*

tamoebahistol- ytica, the cause of amebic dysentery and liver abscess, in 1966⁵. *Giardia lamblia* (also known as *G. duodenalis*) was treated with metronidazole after this luminal parasite was recognized as a cause of malabsorption and epigastric pain in the 1970s⁶. Treatment regimens for the eradication of *Helicobacter pylori* still include metronidazole in combination with other agents. Metronidazole is also indicated for the treatment of bacterial vaginosis caused by *Gardnerellavaginalis*. Despite 45 years of extensive use, metronidazole remains the criterion standard for the management and prophylaxis of anaerobic infections¹.

Methodology:

A cross sectional study was conducted among the doctors of Mirpurkhas in which pre tested questionnaire was distributed to 80 doctors which are practicing in different hospitals of Mirpurkhas.

Result:

Out of 80 study participants, 56 were medical officers, 24 were Postgraduates. Regarding mechanism of action of metronidazole 53/80 said that it is anti diarrheal, 50/80 said anti bacterial, 46/80 said anti protozoal, 27/80 said anti helminthic, 12/80 said anti fungal, 6/80 said antiviral, 3/80 said mucosal protective agent. Regarding the indication of metronidazole 75/80 said that they prescribe in any type of diarrhoea, 56/80 said Food poisoning, 29/80 said IBS and amoebiasis, 26/80 anaerobic Bacterial infection, 24/80 IBD, 15/80 said intra ab-

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dominal infection 12/80 said bacterial septicaemia, 7/80 said skin infection, 3/80 Said bones and joint infection & CNS infection, 1/80 said Trachomoniasis, 1/80 RTI. None said gynaecological infection & Endocarditis. Regarding the knowledge of side effects 43/80 know the side effects of the drugs (skin allergy, bitter taste, nausea, vomiting, vertigo, constipation) 27/80 didn't know about the side effects. Regarding the contraindication of drug 39/80 know about (hepatitis, pregnancy, unconsciousness, Constipation).41/80 didn't know about it. Regarding the Substitute of metronidazole 62/80 said other antibiotics (Levofloxacin, moxifloxacin) 18/80 said antifungal.

Discussion:

Despite extensive use worldwide, acquired resistance to metronidazole among anaerobic bacteria is rare.⁷The physicians sometimes over treat gastrointestinal symptoms with antibiotics and they thereby promote this vicious cycle of antibiotic misuse⁸. Also, the pharmacy shops often mislead the public⁹. Besides the opioids, the other diverse groups of drugs which include antibiotics, anti hypertensive, steroids or anticonvulsants can also be overused or abused¹⁰. The treatment for these types of abuse is difficult and it often needs a prolonged psychological support¹¹. The long term use of drugs like metronidazole or ornidazole can cause toxicities like infertility¹². Although antibacterial agents have no proven usefulness in the management of acute watery diarrhea, many caregivers continue to use them extensively, as was seen among our study participants. Most acute cases of gastro-enteritis are caused by viruses and only ORT is needed.^{13,14} Even when a bacterial cause is suspected in an outpatient setting, antimicrobial therapy is not usually indicated in children because the majority of cases of acute diarrhea are self-limited and not shortened by antimicrobial agents.¹ The World Health Organization (WHO) has reported that rotavirus is the commonest cause of diarrhea in children, with 95% worldwide being infected irrespective of race or SES within the first 3 - 5 years of life. Even in hospital-based surveys rotavirus is responsible for 25- 65% of severe dehydrating diarrhoea.¹⁴ Indiscriminate use of antibiotics results in unnecessarily increased expense and also development of resistance.¹⁵

Conclusion:

This study reflects that there is unnecessary prescription of Metronidazole among the doctors of Mirpurkhas. Most commonly being prescribed for diarrhea, Food poisoning, Amebiasis and IBS. It is critical that 27 doctors didn't know the side effects and 41 were not aware of the contraindications.

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