Optimizing Inpatient Patient Experience

Dear Editor:

Quality of patient care, service, and communication is critical for patient satisfaction. This is tied to several benefits for the health system, including increased patient compliance, loyalty, referral to new patients, and improved clinical productivity. The efficacy of a hospital is often dependent on the admitted patients' experiences with different clinicians. These experiences factor into the patients' likelihood to refer the clinician to other potential patrons. Patients are likely to refer a clinician when they feel heard and included in the decision-making process. When patient satisfaction is low, it is reflected in the percentage of the "likelihood to refer." A below-average score indicates a need to address departmental practices and potentially change how clinicians interact with their patients. A cross-sectional study by Leow and Liew noted that the length of time a physician spends with their patient is one of the strongest determinants for patient satisfaction.[1]

At Froedtert Hospital in Milwaukee, Wisconsin, the 9NT medicine floor continuously reported a likelihood to refer score between 50% and 67% from July 2022 through January 2023, with 76% being the desired goal. To improve likelihood to refer parameter, we started a project in February 2023 focusing on improving clinicians' scores by interventions to promote the communication between clinicians and their patients. We implemented 3 focused intervention strategies to target patient satisfaction improvement. First, physicians should press the "Provider in room" button on the Rauland's panel upon entering a patient's room, which alerts the bedside nurse to come into the room. The physician then discusses the plan of care (POC) with the patient and nurse, utilizing this time to address any questions or concerns intentionally focused on shared decision-making and collaboration. Next, the clinician should update the whiteboard with the patient's POC for the day and the expected discharge date and place. Then, at the end of the day, the physician will reconnect with the patient either in person or via the patient's in-room phone. During this time, the physician will share potential POC updates and ask if any changes occurred and if they can assist with anything before departing for the day.

Prior to introduction of these interventions, "the likelihood to refer" percentage consistently remained below 67%. Within the first month of implementation of this pilot project, this rate increased to 75%. Throughout the study span, the "likelihood to refer" for 9NT reached 78%, surpassing the desired target.

With 3 targeted intervention tactics, an increased "likelihood to refer" percentage demonstrates improved patient satisfaction. Based on the successful pilot project, we are implementing this on all medicine units at the hospital. This initiative will enhance the efficiency and productivity of the institution, improve patient retention, and foster trust between patients and their medical care team.

—Precious Anyanwu, BS; Sparsh Jain, BS; Sushma Raju, MD; Sanjay Bhandari, MD; Jeanette Carreras, MPH; Pinky Jha, MD, MPH; Barbara Slawski, MD

REFERENCE

1. Leow HT, Liew SM. A cross sectional study on patient satisfaction and its association with length of consultation at the University Malaya Medical Centre Primary Care Clinic. *Malays Fam Physician*. 2022;17(2):71-80. doi:10.51866/oa1339.

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Financial Disclosures: None declared.

Funding/Support: None declared.

Comment on 'Can Metronidazole Cause a Disulfiram-Like Reaction? A Case-Control Study Propensity Matched By Age, Sex and Ethanol Concentration'

Dear Editor,

We read with great interest the recently published article by Feldman and Jaszczenski regarding the possibility of a disulfiram-like reaction brought about by the use of metronidazole.[1] According to their results, there were no patients who experienced such a reaction after concomitant use of alcohol and metronidazole. Based on this finding, they suggest that metronidazole should not be avoided due to concern about an interaction with ethanol. Because of our continuous research on disulfiram, we find the issue very interesting and we would like to comment briefly on this report.

In a previous work of our laboratory team published in 2007, we clearly showed that metronidazole does not provoke a disulfiram-like reaction, because it does not inhibit the hepatic aldehyde dehydrogenase nor increase blood acetaldehyde in the Wistar rat.[2] In addition, in this study, we demonstrated for the first time that metronidazole produces a tremendous increase in the levels of brain serotonin, while the enhancing effects of ethanol on the central levels of serotonin are well established.[3] Likewise, we concluded that the reaction to ethanol exhibited by metronidazole may be the result of an interaction in the context of a type of a serotonin syndrome (SS), as in the case of the concomitant administration of agents possessing serotonergic activity. In support of this notion, it has been demonstrated that the combination of ethanol with serotonergic agents may induce a SS.[4]

The clinical manifestations of SS are a triad of altered conscious state, autonomic dysfunction, and neuromuscular excitability. However, in a retrospective study by Radomski et al,[5] it was shown that the clinical picture of SS may be highly variable, and, in fact, all the symptoms observed during a "disulfiram reaction" are included in the detailed list of symptoms provided by this study.

In conclusion, we suggest that the authors should be aware of the serotonergic properties of metronidazole and ethanol, the combination of which might lead, at least in theory, to a SS, with symptoms very similar to those of a disulfiram-like reaction. Hence, we believe that they might reconsider their suggestion that patients under treatment with metronidazole can safely use alcohol due to lack of interaction between these two agents. Given the low incidence of SS, the fact that none of the 18 patients of the study who received metronidazole and ethanol had a suspected disulfiram-like reaction cannot rule out the possibility of alcohol intolerance produced by metronidazole.

—Petros N. Karamanakos, MD, MSc, PhD; Eleftheria S. Panteli, MD, MSc, PhD, DESA; Marios Marselos, MD, PhD

REFERENCES

1. Feldman R, Jaszczenski R. Can metronidazole cause a disulfiram-like reaction? a case-control study propensity matched by age, sex, and ethanol concentration. *WMJ.* 2023;122(3):171-177.

2. Karamanakos PN, Pappas P, Boumba VA, et al. Pharmaceutical agents known to produce disulfiram-like

reaction: effects on hepatic ethanol metabolism and brain monoamines. *Int J Toxicol.* 2007;26(5):423-432.

3. Daws LC, Montañez S, Munn JL, et al. Ethanol inhibits clearance of brain serotonin by a serotonin transporter-independent mechanism. *J Neurosci.* 2006;26(24):6431-6438. doi:10.1523/JNEUROSCI.4050-05.2006

4. Velez LI, Shepherd G, Roth BA, Benitez FL. Serotonin syndrome with elevated paroxetine concentrations. *Ann Pharmacother.* 2004;38(2):269-272. doi:10.1345/aph.1D352

5. Radomski JW, Dursun SM, Reveley MA, Kutcher SP. An exploratory approach to the serotonin syndrome: an update of clinical phenomenology and revised diagnostic criteria. *Med Hypoth*. 2000;55(3):218-224. doi:10.1054/mehy.2000.1047

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Funding/Support: None declared.

Financial Disclosures: None declared.

Leprosy in the Upper Midwest: Vigilance Needed for Contacts

Dear Editor,

A case report by Bach et al has brought to attention a case of leprosy in the upper Midwest.[1] Several critical points need emphasis for the management of the patient's contacts and to prevent future complications for the patient. Specifically, the possibility of administering a single dose of rifampicin[2] or rifapentine[3] to the patient's contacts should be explored, as the patient is classified with borderline lepromatous leprosy, which carries a higher risk of transmission due to high bacillary loads.

It is imperative to conduct physical examinations of all the patient's contacts and provide them with a single dose of rifampicin or rifapentine as a preventive measure. A contact is defined as an individual who has had significant, prolonged exposure to a leprosy patient, such as living in close proximity for at least 20 hours per week over a 3-month period annually. This would typically include family members, neighbors, friends, classmates, and coworkers.

The World Health Organization's single-dose rifampicin recommendations are based on age and weight. For individuals 15 years and older weighing around 60 kg, the prescribed dose is 600 mg; for those aged 10-14 years, it is 450 mg; for those aged 6 to 9 years weighing 20 kg or more, it is 300 mg; and for children aged 2 years or older weighing less than 20 kg, the dose is calculated at 10-15 mg/kg.

It should be further emphasized that this patient is at a significant risk of developing erythema nodosum leprosum, which is a type 2 reaction, due to the abundant presence of bacilli. It is recommended to manage such cases with steroids, especially considering the neural involvement, but it should be done cautiously due to the associated decreased visual acuity and the increased risk that steroids present. If severe reactions with systemic involvement are not controlled by steroids and methotrexate, thalidomide may be considered as an alternative treatment.[4] The initial dose of thalidomide is 100 mg 3 times daily, with subsequent dose reduction as appropriate.

—Pugazhenthan Thangaraju, MD, Sajitha Venkatesan, MD

REFERENCES

1. Bach K, Hinshaw MA, Shields BE. Leprosy in the upper Midwest. *WMJ*. 2023;122(3):205-207. PMID:37494653.

2. Wang L, Wang H, Yan L, et al. Single-dose rifapentine in household contacts of patients with leprosy. *N Engl J Med*. 2023;388(20):1843-1852. doi:10.1056/NEJMoa2205487. PMID: 37195940.

3. Scollard DM. A new step in postexposure prophylaxis for leprosy. *N Engl J Med.* 2023;388(20):1904-1905. doi:10.1056/NEJMe2302667.

4. Thangaraju P, Venkatesan S, Gurunthalingam M, Babu S, T T. Rationale use of Thalidomide in erythema nodosum leprosum - a non-systematic critical analysis of published case reports. *Rev Soc Bras Med Trop.* 2020;53:e20190454. doi:10.1590/0037-8682-0454-2019

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Funding/Support: None declared.

Financial Disclosures: None dec;lared.

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REFERENCES

1. World Health Organization. Social determinants of health. Accessed April 5, 2023. https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

2. County Health Rankings & Roadmaps, University of Wisconsin Population Health Institute. County Health Rankings model. Accessed April 5, 2023. https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model

3. Powell-Wiley TM, Baumer Y, Baah FO, et al. Social determinants of cardiovascular disease. *Circ Res.* 2022;130:782-799. doi:10.1161/CIRCRESAHA.121.319811

4. Brandt E, Tobb K, Cambron J, et al. Assessing and addressing social determinants of cardiovascular health. *J Am Coll Cardiol.* 2023;81(14):1368–1385. doi:10.1016/j.jacc.2023.01.042

5. Carnethon MR, Pu J, Howard G, et al. Cardiovascular health in African Americans: a scientific statement from the American Heart Association. *Circulation*. 2017;136(21):e393-e423. doi:10.1161/cir.0000000000000534

6. Leng B, Jin Y, Li G, et al. Socioeconomic status and hypertension: a meta-analysis. *J Hypertens*. 2015;33(2):221-229. doi:10.1097/HJH.0000000000000428

7. Gu A, Yue Y, Desai RP, et al. Racial and ethnic differences in antihypertensive medication use and blood pressure control among US adults with hypertension: the National Health and Nutrition Examination Survey, 2003 to 2012. *Circ Cardiovasc Qual Outcomes*. 2017;10(1):e003166. doi:10.1161/CIRCOUTCOMES.116.003166

8. Aggarwal R, Chiu N, Wadhera RK, et al. Racial/ethnic disparities in hypertension prevalence, awareness, treatment, and control in the United States, 2013 to 2018. *Hypertension*. 2021;78(6);1719-1726. doi:10.1161/hypertensionaha.121.17570

9. National Association of Free & Charitable Clinics. National Association of Free & Charitable Clinics. Accessed April 5, 2023. https://nafcclinics.org

10. Ortega RF, Yancy CW, Mehran R, et al. Overcoming lack of diversity in cardiovascular clinical trials. *Circulation*. 2019;140(21):1690-1692. doi:10.1161/circulationaha.119.041728

11. Pasha M, Brewer LC, Sennhauser S, et al. Health care delivery interventions for hypertension management in underserved populations in the United States: a systematic review. *Hypertension*. 2021;78(4):955-965. doi:10.1161/hypertensionaha.120.15946

12. Centers for Disease Control and Prevention. Team-based care to improve blood pressure control. Updated November 10, 2022. Accessed April 5, 2023. https://www.cdc.gov/dhdsp/pubs/team-based-care.htm

13. Brownstein JN, Chowdhury FM, Norris SL, et al. Effectiveness of community health workers in the care of people with hypertension. *American J Prev Med.* 2007;32(5):435–447. doi:10.1016/j.amepre.2007.01.011

14. Vohra AS, Chua RFM, Besser SA, et al. Community health workers reduce rehospitalizations and emergency department visits for low-socioeconomic urban patients with heart failure. *Crit Pathw Cardiol*. 2020;19(3):139-145. doi:10.1097/HPC.0000000000000220.

15. Patient Protection and Affordable Care Act, HR 3590, 111th Congress (2010). Accessed February 1, 2024. https://www.congress.gov/bill/111th-congress/house-bill/3590

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