

W4 ASSIGNMENT: CASE STUDIES

Student's Name

Institutional Affiliation

W4 ASSIGNMENT: CASE STUDIES

Scenario 1: Sara's Blood Pressure Management

Sara, a 45-year-old female, presents with a blood pressure (BP) of 160/90 mmHg, an increase from 156/92 mmHg recorded three months ago. Her current medications include ibuprofen 600 mg tid for back pain. The goal for Sara's blood pressure is to reduce it to below 140/90 mmHg, as per clinical guidelines. Given her current readings and history, initiating an antihypertensive medication is warranted (Mahmood et al., 2021). A suitable first-line medication is an ACE inhibitor such as Lisinopril, starting at 10 mg once daily, adjusting based on her response and tolerability. This choice helps manage BP effectively and provides renal protection, which is crucial given her potential cardiovascular risks.

In addition to pharmacotherapy, patient education is critical. Sara should be informed about lifestyle modifications, including a low-sodium diet, regular physical activity, weight management, and limiting alcohol intake. She should also be advised to avoid NSAIDs like ibuprofen, which can elevate BP; alternative pain management strategies should be discussed. Monitoring should include regular BP checks, either at home or during follow-up visits, to ensure the effectiveness of the treatment plan and adjust dosages as necessary (Mahmood et al., 2021). Lastly, Sara should be encouraged to adhere strictly to her medication regimen and schedule follow-up appointments to reassess her BP and overall health status, ensuring optimal management and early identification of any adverse effects or necessary adjustments in her treatment plan.

Scenario 2: Monty's Lipid Profile Management

Monty, a 52-year-old male, presents with a fasting lipid profile indicating hyperlipidemia: total cholesterol (TC) of 266 mg/dL, LDL cholesterol of 180 mg/dL, HDL cholesterol of 40

mg/dL, and triglycerides of 185 mg/dL. He has a history of smoking (1 pack per day) and is currently on Lisinopril 20 mg daily for hypertension. Given his elevated lipid levels, the treatment plan should include initiating statin therapy, such as atorvastatin 20 mg once daily, to lower LDL cholesterol and reduce overall cardiovascular risk (Tong et al., 2021). The goals for Monty's lipid profile are TC < 200 mg/dL, LDL-C < 100 mg/dL, and HDL-C > 60 mg/dL.

To monitor the effectiveness of this treatment plan, follow-up lipid panels should be conducted every three months initially, adjusting the statin dose as needed based on lipid response and tolerability. Monty has multiple risk factors for coronary artery disease, including smoking, hypertension, elevated LDL, and low HDL. Addressing these risk factors comprehensively is essential. Monty should receive education on smoking cessation programs and the benefits of quitting smoking, which significantly impacts cardiovascular health. Additionally, lifestyle modifications such as adopting a heart-healthy diet, increasing physical activity, and maintaining a healthy weight should be emphasized (Tong et al., 2021). Regular follow-up appointments should be scheduled to monitor his progress, adjust medications as needed, and reinforce the importance of adherence to both pharmacologic and non-pharmacologic interventions.

Scenario 3: Beatrice's Asthma Management

Beatrice, a 17-year-old female with mild persistent asthma, reports increased use of her albuterol metered-dose inhaler (MDI) and frequent nighttime awakenings due to coughing. Her current medications include Flovent HFA 44 mcg two puffs BID, Proventil HFA two puffs Q 4-6 H PRN, Yaz one PO daily, and Propranolol 80 mg PO BID. Given her increased asthma symptoms, the treatment plan should be stepped up (Cazzola et al., 2021). Increasing the dosage of her inhaled corticosteroid to Flovent HFA 110 mcg two puffs BID may be warranted, and

considering the addition of a long-acting beta-agonist (LABA) like salmeterol in combination with fluticasone may provide better control.

Propranolol, a non-selective beta-blocker, should be discontinued as it can exacerbate asthma symptoms; an alternative beta-1 selective blocker may be considered if needed.

Monitoring the effectiveness of the treatment plan should involve regular follow-up visits every 4-6 weeks, where Beatrice's asthma control can be assessed using spirometry and symptom diaries. Educating Beatrice on the correct use of her inhalers, the importance of adhering to her medication regimen, and identifying and avoiding asthma triggers is crucial (Rodriguez-Guerra et al., n.d.). Encouraging her to keep a symptom diary can help track her progress and identify patterns that may require further intervention. This comprehensive approach aims to reduce her symptom burden, improve her quality of life, and prevent exacerbations.

Scenario 4: Daute's Shortness of Breath Management

Daute, a 56-year-old man with a history of chronic bronchitis and a significant smoking history, presents with increasing shortness of breath (SOB) over the past three years. He has been non-compliant with his previously prescribed salmeterol/fluticasone (Advair Diskus). To manage his symptoms effectively, the treatment plan should include restarting Advair Diskus, one inhalation twice daily, to provide both long-acting beta-agonist and corticosteroid benefits (Singh et al., 2020). Additionally, adding a long-acting muscarinic antagonist (LAMA) like tiotropium, one inhalation daily, can help improve his lung function and reduce SOB.

It is essential to educate Daute on the importance of medication adherence, proper inhaler technique, and regular use of his prescribed medications to manage his chronic bronchitis and prevent exacerbations. Monitoring the effectiveness of this treatment plan should involve scheduled follow-up visits to assess symptom control, lung function using spirometry, and

adherence to the treatment regimen. Encouraging Daute to engage in pulmonary rehabilitation and smoking cessation programs is crucial for improving his overall lung health and quality of life. Regular assessments of his lung function, symptom diary reviews, and adjustments to his medication plan as needed will help optimize his management and prevent further deterioration of his respiratory condition.

References

- Cazzola, M., Matera, M. G., Rogliani, P., Calzetta, L., & Ora, J. (2021). Step-up and step-down approaches in the treatment of asthma. *Expert Review of Respiratory Medicine, 15*(9), 1159–1168. <https://doi.org/10.1080/17476348.2021.1935245>
- Mahmood, S., Jalal, Z., Hadi, M. A., Khan, T. M., Haque, M. S., & Shah, K. U. (2021). Prevalence of non-adherence to antihypertensive medication in Asia: A systematic review and meta-analysis. *International Journal of Clinical Pharmacy, 43*(3), 486–501. <https://doi.org/10.1007/s11096-021-01236-z>
- Rodriguez-Guerra, M., Chinta, S., & Montes De Oca Manuel, V. T. (n.d.). *The role of beta-agonist therapy for chronic obstructive airway disease in patients with coexistent atrial fibrillation*. Retrieved July 9, 2024, from https://www.researchgate.net/profile/Miguel-Rodriguez-Guerra/publication/356731445_The_role_of_beta-agonist_therapy_for_chronic_obstructive_airway_disease_in_patients_with_coexistent_atrial_fibrillation/links/61a9151cca2d401f27bbf5cf/The-role-of-beta-agonist-therapy-for-chronic-obstructive-airway-disease-in-patients-with-coexistent-atrial-fibrillation.pdf
- Singh, A. K., Majumdar, S., Singh, R., & Misra, A. (2020). Role of corticosteroid in the management of COVID-19: A systemic review and a Clinician's perspective. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(5), 971–978.
- Tong, S. T., Sabo, R. T., Hochheimer, C. J., Brooks, E. M., Jiang, V., Huffstetler, A. N., Kashiri, P. L., & Krist, A. H. (2021). Uptake of statin guidelines to prevent and treat cardiovascular disease. *The Journal of the American Board of Family Medicine, 34*(1), 113–122.

