



THE CANADIAN ASSOCIATION
OF GENERAL PRACTITIONERS
IN ONCOLOGY



L'ASSOCIATION CANADIENNE
DES MÉDECINS OMNIPRATICIENS
EN ONCOLOGIE

FEBRILE NEUTROPENIA CASE

Case #1

Febrile Neutropenia Case

A 45-year-old man with limited stage small cell lung cancer develops a fever of 38.6°C 12 days after receiving his first cycle of cisplatin and etoposide chemotherapy. Your nurse arranges to have him seen in the clinic that day.

1. What tests/investigations would you order?
2. Does the risk for febrile neutropenia vary depending on the chemotherapy regime?
3. What would determine whether this patient needs admission to hospital?
4. Under what circumstances could this patient be treated as an outpatient?

This patient's WBC is 0.9, neutrophil count is 0.2. Physical examination does not identify a source for the fever, except for his chronic cough with minimal sputum production. Oxygen saturation is 91% on room air. CXR does not show an infiltrate. He is mildly dehydrated, as he hasn't been drinking well because of low-grade nausea. He lives alone and has no family supports.

5. Does this patient have febrile neutropenia?
6. What treatment would you institute?
7. How would you monitor this patient?
8. What additional treatment would you consider if the patient had a PICC line? If the patient had significant mucositis?

You elect to admit this patient to hospital and institute broad-spectrum IV antibiotics. He remains afebrile since the time of admission, 48 hours ago. On day 2 of admission his CBC shows a WBC of 1.4 and a neutrophil count of 0.6. Cultures are negative.

9. When would it be appropriate to switch from IV to PO antibiotics?
10. When would you consider discharging this patient?
11. Does the WBC/neutrophil count need to be a certain value before discharging this patient / switching to PO antibiotics?
12. How long would you continue oral antibiotics?
13. What, if any, is the role of granulocyte colony stimulating factor (G-CSF) in the hospitalized, febrile neutropenic patient?

He returns one week after discharge from hospital. His CXR is unchanged from admission. WBC is 5.2 and neutrophil count is 2.9. None of the cultures drawn on admission were positive. He is quite concerned about the complications post cycle 1 and wants to know what can be done to prevent it from occurring in future cycles?

14. What are the options at this point, to help prevent febrile neutropenia from occurring after this and future cycles of chemotherapy?
15. When would one consider instituting a dose reduction versus adding in the growth factor, G-CSF?
16. What are the indications for instituting growth factors prophylactically (i.e. with the initiation of chemotherapy prior to an episode of febrile neutropenia)?
17. Is there evidence to use growth factors in the metastatic setting?