

# **Clinical Tract**

## **Group case studies**

### **Adult antiretroviral therapy**

## **CASE 1**

### **The scenario**

Mary is a 28 years old woman. She weighs 48kg. She complains of a painful blister-rash for 2 days below the left breast. She is a known pulmonary TB patient, on TB treatment for 1 month. She also takes co-trimoxazole. She lost her newborn baby a week ago. Her recent CD4+ cell count is 150 cell/m<sup>3</sup>.

On examination, she had herpes zoster infection (shingles). She was tearful during the consultation due to severe pain.

### **Questions for medical staff**

1. What is her WHO stage?
2. On which TB medication is she likely to be currently?
3. How would you treat her shingles?
4. Is Mary eligible for ARV according to the medical criteria of SA national ARV treatment guidelines? Mention each of the criteria and state whether she qualifies.
5. What test is still outstanding?
6. What else would you consider before you start her on ARV therapy? Motivate your answer.
7. Which antiretroviral drugs would you consider for her? Motivate your answer. Write a prescription (with generic names of drugs and dosages) for her covering all the associated conditions and antiretroviral therapy.
8. Mention any drug interactions for all of above conditions.

### **Questions for non-medical staff**

1. What is her WHO stage?
2. On which TB medication is she likely to be currently?
3. How would you treat her shingles?
4. Is Mary eligible for ARV according to the medical criteria of SA national ARV treatment guidelines? Mention each of the criteria and say whether she qualifies.
5. What test is still outstanding?
6. What else would you consider before you start her on ARV therapy? Motivate your answer.
7. Which antiretroviral drugs do you think the doctor will use?

## CASE 2

### The scenario

Betty is 30 years old. She had a CD4 count of 180 cells/mm<sup>3</sup> and a viral load of 120 000 copies/mL. She was diagnosed with HIV at 32 weeks of pregnancy. The baby received nevirapine syrup.

She initiated ARVs during pregnancy. At that stage she weighed 58kg. She started taking the following drugs:

- Stavudine 30mg orally 12 hourly
- Lamivudine 150mg tablet 12 hourly
- Nevirapine 200mg tablet 12 hourly
- Co-trimoxazole 480mg 2/day

She returns for her six month visit on ARV therapy. Her weight is now 62kg. She has no complaints. Her pill count matches her diary. She has a calculated monthly adherence of 98%. Her CD4 count is 220 cells/mm<sup>3</sup> and her viral load is < 25 copies/mL.

### Questions for medical Staff

1. Which side effects are actively assessing for during this consultation?
2. Which drug would have changed after delivery?
3. Write a new prescription (with generic names of drugs and dosages) for her taking into account her weight and CD4 count.
4. How would you explain the meaning of the change in CD4 count to her?
5. How would you explain the HIV viral load <25 copies/mL? How would you answer the question of whether she is HIV negative now?
6. What other tests need to be done to monitor the safety of the drugs?
7. What will you say if she asks whether they can stop the ARV now?

### Questions for non-medical staff

1. Why was Betty on a nevirapine containing regimen?
2. Which drug would have changed after delivery?
3. Which drug can now be stopped? Why?
4. How would you explain the meaning of the change in CD4 count to her?
5. How would you explain the HIV viral load <25 copies/mL? How would you answer the question of whether she is HIV negative now?
6. What other tests need to be done to monitor the safety of the drugs?
7. What will you say if she asks whether they can stop the ARVs now?

### Case 3

Female patient, 47 years, 56kg, ARV naïve. CD4 count 120 cells/mm<sup>3</sup>, viral load 95 000 copies/mL.

#### Treatment:

Stavudine 40mg bd  
3 TC 150 mg bd  
Efavirenz 600mg nocté  
Co-trimoxazole 480mg/day

#### Questions for all

1. Find the mistakes in above prescription, write down the correct medication and dosage and motive why the current medication is wrong.

### Case 4

Female patient, 24 years, 56kg, ARV naïve. CD4 count 120 cells/mm<sup>3</sup>, viral load 95 000 copies/mL.

#### Treatment

Combivir 1 bd  
Efavirenz 600mg nocté

#### Questions for all

1. Can zidovudine and 3TC be used together in a regimen?
2. If zidovudine and 3TC are used together in regimen 1, with which drugs would they be replaced in the second regimen in case of viral failure?
3. What is the side effect profile of the two drugs that will replace zidovudine and 3TC in the second regimen?
4. Write a prescription for the combination that you would rather use in the first regimen.
5. What do you need to take into account with the use of efavirenz in this patient?
6. What item is missing from her prescription?

## Case 5

Female patient, 42 years. The patient was on stavudine, 3TC and efavirenz. At three years on therapy she had a CD4 count of 340 cells/mm<sup>3</sup> and a viral load < 25 copies/mL.

After four years she had the following blood results: a CD4 count of 190 cells/mm<sup>3</sup> and a viral load of 22 000 copies/mL. On follow-up she had a CD4 count of 140 cells/mm<sup>3</sup> and a viral load of 122 000 copies/mL. She was taking her pills correctly and had no absorption problems. She weighed 62kg, but previously weighed 74kg.

### Questions for all

1. Write a prescription with a new antiretroviral regimen and prophylactic antibiotics. Specify on the prescription the strength of the tablets, amount and how it should be taken.

## Case 6

Mr Bokaba is a 34-year-old that has just been diagnosed with HIV infection. His CD4 count is 150 cells/mm<sup>3</sup> and his viral load is 100 000 copies/mL. He is started on the following Antiretroviral therapy:

Stavudine 30mg bd  
Zidovudine 300mg bd  
Efavirenz 600mg nocte

### Questions for Medical staff

1. Comment on the script.
2. What changes would you make to the script and why?
3. How many tablets of Efavirenz will the patient take per day?
4. Why is the patient getting 30mg of Stavudine?

### Questions for Non – Medical

1. How many tablets of Efavirenz will the patient take per day?
2. Why is the patient getting 30mg of Stavudine?
3. What are the most important side effects that you would look out for in this patient?

## Case 7

Miss Ndou has been started on Antiretroviral therapy and she is on anti TB treatment as well.

This is how her script looks.

1. Stavudine 40mg bd
2. Didanosine 200mg bd
3. Efavirenz 600mg nocte
4. Rifampin 4 tablets daily
5. Pyridoxine 30mg daily

### Questions for Medical staff

1. What are the possible drug interactions that you would worry about?
2. How would you manage the interactions?
3. How many didanosine tablets would you give to the patient per dose and why?

You later discover that Miss Ndou is pregnant

4. How would you further manage this patient?

### Questions for Non – Medical

1. What advice would you give to a patient on Didanosine with regards to meals?
2. How many didanosine tablets would you give to the patient per dose and why?
3. What important counselling would you give to a patient who falls pregnant while taking Efavirenz and why is it necessary for you to offer that counselling?

