

HIV Paediatric case 13 – Flora



This is Flora. She is five years old. She has come to hospital with a swollen face which is much more severe on one side than the other. She also appears to be malnourished.

HISTORY:

When Flora was born, her mother had already tested HIV positive, but had not yet started ART. She was given treatment to prevent mother to child transmission and Flora was given nevirapine syrup for six weeks. Flora then breast fed for the first two years of her life.

When Flora was 18 months old and still breast feeding, both she and her mother became sick and were taken to the health centre. Flora's health passport shows she was malnourished with severe oedema and anaemia. She tested HIV reactive with a rapid test.

STOP POINT

Flora 18 months old: Both Mother and Flora sick. Flora has anaemia, wasting and oedema. She tests positive on rapid test.

WHAT WAS FLORA'S STATUS AT THIS TIME?


SHOULD SHE HAVE INITIATED ART?

WHAT OTHER TESTS DID SHE NEED AND WHEN?

1) At 18 months old a rapid test is sufficient to diagnose HIV. By this time children will not longer have their mother's HIV anti-bodies through breast feeding. So Flora is infected.

2) Yes she can initiate ART because of her age alone. But she also qualifies because she has wasting and oedema, both signs of advanced HIV disease (Stage 4). Mother should have started ART during her pregnancy so she was not started at the correct time either.

3) Flora does not need any other tests to start ART. She should however have an Hb test to check the severity of the anaemia as this might indicate that she should not start on AZT.

 *Flora's mother was initiated on ART, But Flora did not start treatment at this time. Indeed there is then nothing else in her records until she is almost three and a half. Then she was taken to the health centre again because she was losing weight, was frequently sick and had severe anaemia. Another HIV test was done which was again positive. This time she was initiated on ART.*

STOP POINT

HISTORY

18 MONTHS OLD:

First tested HIV reactive.

Anaemia, Wasting and Kwashiorkor.

3 YEARS AND 4 MONTHS:


Flora retested HIV reactive.

Anaemia (6.6 g/dl). Initiated on ART.

WHICH REGIMEN WOULD YOU HAVE STARTED HER ON?

This would vary depending on the country and local guidelines. However she has anaemia, so probably she should not be started on a regimen with AZT.

Discussion about anaemia. Should children be stopped from initiating on AZT, which is the most available first line, because of anaemia? The guidelines are different in different countries. Flora has a very low Hb. In most guidelines AZT is not recommended if the Hb is below 8 g/dl. So if available Flora should have been started on an alternative regimen.

 *At this point Flora weighed only 11 and a half kilos. During her first year on ART her weight and height were recorded at each visit. But no growth chart was filled out. This is what it would have looked like if it had been. During the seven months after initiating ART Flora put on 8 and a half kilos. She was above average weight for her age. Then a year ago the entries of height and weight in her health passport stop. She was documented as a defaulter. Her mother confirms she stopped giving the medicines because Flora refused to take them.*

Three and a half months ago, now aged 5, Flora was taken back to the health centre because she was again unwell. At that point, according to her health passport, she was still well nourished. This chart shows her BMI which was 19.6. That was the last entry before her current illness. Now Flora has been brought to hospital with a painful swelling on the right side of her face, which started a month ago. She also seems to be malnourished.

STOP POINT

HISTORY

1 YEAR, 9 MONTHS AGO: Initiated ART.

1 YEAR AGO: Stopped coming to the health centre.

DOCUMENTED AS A DEFAULTER.

WHAT WOULD YOU LOOK FOR IN AN EXAMINATION AND IN HER HISTORY?

Check HIV history and adherence of both the mother and the child. Check the cause of the swelling. Do a thorough assessment for nutritional status. Check for anaemia and any other opportunistic infections. If there is significant weight loss and a cough, TB needs to be ruled out.



Looking in her mouth there appears to be an ulcerated wound around one of her teeth. The gum is very swollen and is oozing pus. She is checked for any continuing signs of anaemia. She is also given an assessment to see her nutritional status. She has clear signs of oedema, from her feet up to her hands and face. And despite the oedema, she weighs six kilos less than she did just three months ago. The BMI growth chart shows an alarmingly fast decline from being over the average weight to a BMI of around 14, which is borderline for her age. Finally she has candida in her mouth. Flora is admitted to the hospital. She is referred to the dentist to look at the abscess on her tooth and given antibiotics. She is also started on a feeding program.

STOP POINT

- **Abscess in the mouth around one of the teeth.**
- **Hb: 8.7 g/dl.**
- **Weight:13.7 kg**
- **Height:101 cm**
- **Muac:14**
- **Oedema: +++**

WHAT WOULD YOUR ASSESSMENT OF FLORA BE?

WHAT TREATMENT DOES SHE NEED?

WHAT SHOULD BE DONE ABOUT ART?

1) ART defaulter with severe Kwashiorkor + Anaemia + severe mouth infection and possible cancrum oris (= tissue degeneration in the mouth due to a bacterial infection that occurs during periods of compromised immune function, e.g. malnutrition, HIV and poor oral hygiene, unsafe drinking water,...; most affected age group 2-6 years of age)

2) Antibiotics for the oral abscess. Mouth hygiene with Hydrogen Peroxide and feeding program.

3) ART needs to be restarted. Since the mother stopped the treatment we are not expecting significant resistance mutations and Flora can be started on the same treatment she had before, or any first line treatment according to the National Program. Since Flora has no severe anaemia now (Hb 8.7 g/L) there is no problem on giving AZT. According to WHO Guidelines (2013) Flora could start on EFV + ABC/3TC. Mother also needs counseling for adherence for herself and Flora.

TWO WEEKS LATER:



Two weeks later, Flora is being reviewed by the ART clinic before being discharged. The ulcer in her mouth has been drained and is healing. She is still on anti-biotics. Her cheek is still swollen and there is discoloration around one eye.

DOCTOR: This one has a ring around, this one doesn't...

Her conjunctiva is still quite pale. She still has slight oedema. But there is improvement from two weeks ago. And her weight has gone up from 13.7 to 14 kilos.

DOCTOR: So she's above the green line....

She has not been on ART now for more than six months so this needs to be restarted....

STOP POINT

HISTORY:

1 YEAR, 9 MONTHS AGO: Initiated ART

1 YEAR AGO: Stopped collecting medicines. Defaulted

**IF YOU HAD ACCESS TO A VIRAL LOAD NOW – WHAT IS IT LIKELY TO SHOW?
WOULD IT BE USEFUL?**

IF YOU HAD ACCESS TO A CD4 WHAT IS THIS LIKELY TO SHOW? WOULD IT BE USEFUL?

1) The test is likely to show a high viral load because Flora has not been taking ART. It will give no evidence about treatment failure....which is when the medicines stop working because of resistance. For a viral load to show treatment failure, there has to be good adherence. So with Flora, it would be better to wait to do a viral load until after she has reinitiated ART with good adherence. If the viral load is then high, treatment failure could be suspected.

2) The CD4 will show whether her immune system is compromised. This would be useful clinically in that it would give an idea as to whether Flora still has the ability to fight off opportunistic infections – or whether she is very susceptible. A baseline CD4 before she reinitiates ART would also be useful as it could in future give an indication over time whether she is responding to treatment. Flora is now five years old – so her CD4 will be falling to adult levels. Children tend to quickly fall to their baseline cd4 level if they are non-adherent. So a cd4 now would give a good idea for the future as to how susceptible to opportunistic infections Flora will be if she stops taking ARVs or becomes resistant.



Flora's mother says that she has continued taking her own ARVs, but that she stopped giving them to Flora because Flora refused to take them. She is booked for group counselling and for adherence counselling to try to address this and make sure that the same thing will not happen....

STOP POINT

**HOW WOULD YOU HELP THE MOTHER TO GET FLORA TO TAKE THE ARVS?
WHAT ELSE NEEDS TO BE DONE?**

1) This should ideally have been done in hospital rather than at discharge, under the supervision of a nurse to give the mother confidence over a period of time to give Flora the medicines. It is one of the hardest things for parents with children on ART.

2) Check rest of the family. The mother has a young baby. Does she have other children? What is their status?



Flora's mother says she has five children in total. Three are older than Flora. The youngest is only two months old and she is breast feeding. The baby's health passport shows, that it received Nevirapine syrup for 6 weeks after birth.

STOP POINT

WHAT IS THE BABY'S STATUS?

WHAT TEST SHOULD BE DONE TO DETERMINE THE STATUS OF THE 2 MONTH OLD BROTHER?

WHAT FEEDING ADVICE WILL YOU GIVE TO THE MOTHER?

WHAT WOULD YOU TELL THE MOTHER ABOUT ADHERENCE AND HER BABY?

WHAT NEEDS TO BE DONE ABOUT THE OTHER THREE OLDER CHILDREN?

1) The baby is HIV Exposed

2) The baby needs an HIV PCR test done to make an early diagnosis of HIV.

3) Exclusive breast feed until age 6 months, then Complementary feeding (breast milk until age 24 months + other foods). Mixed feeding under six months not recommended because: Children less than 6 months old have immature immune and gastrointestinal systems. Mixing breast milk with other foods or formula weakens the intestinal lining, increasing the chance that HIV in the breast milk will cross over into the blood stream and infect the child.

4) The best way to decrease transmission of HIV to her infant is for the mother to continue taking ART. She needs to understand the importance of good adherence in reducing the HIV in her body and breast milk, which will decrease the risk of transmitting HIV to the baby. She needs to understand that ART is a life-long treatment for her health.

5) They need to be tested. Because they are all older than 18 months, a rapid HIV test would be enough to determine their status



Flora will go home with nutritional supplements. But will need a follow up at the hospital to make sure her mouth continues to heal and review her ART.

OUTCOME:

Flora was discharged with an appointment for two weeks time.

The mother didn't return to the follow up appointment. She may have gone to another health centre closer to home, but this is not known.

GLOSSARY: Health passport is a medical record which all patients in Malawi are given. The passport is kept by the patient and should be brought to all clinic/hospital visits.