

# HIV Paediatric case 10 – Louis



 *This is Louis; he is 8 years old, in standard one at school. He has arrived in hospital extremely sick. He has yellow diarrhoea and vomits if he takes anything more than water . Both he and his 38-year-old mother are HIV positive and have been on treatment. Neither of them look in good health. Their history shows a several missed opportunities.....*

## **HISTORY:**

 *Seven years ago, when Louis was one year old and still breastfeeding, his mother tested HIV positive. She was put onto treatment. But Louis was not tested. It was not until five years later, when he was six, that Louis was himself given an HIV test - along with his father. Both of them tested positive. Because they were already showing symptoms, they were started on ART.*

## **STOP POINT**

### **HISTORY**

**Seven years ago: Mother tested positive and initiated ART**

**Two years ago at age 6: Louis tested HIV positive**

**WHAT SHOULD HAVE BEEN DONE DIFFERENTLY?**

**WHAT REGIMEN WOULD HE BE INITIATED ON?**

**WHAT ELSE NEEDS TO BE CHECKED AT THE HEALTH CENTRE?**

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1) He should have been tested with his mother when he was one year old as he was EXPOSED at that time. Today he would be tested with a DNA/PCR and if found positive would be started on ART because of his age. Even if no DNA/PCR was available and he was found to be reactive, he would have been eligible to start ART and at 18 months a positive rapid test would also have been definitive.

2) This needs to be checked with local guidelines as it will vary between countries.

3) The status of the rest of the family needs to be checked? Does he have siblings?

 *Louis mother says that he started to lose weight before initiating ART two years ago and has got progressively worse since then. Unfortunately she does not have his old health passport. So his records only go back a few months. Four months ago his weight was fifteen kilos with a height of 102 cm. This gives him a low body mass index, almost in the danger zone. He was obviously failing to thrive. On that visit he was treated for a cough with antibiotics. But the reasons for his failure to thrive were not investigated. On his last visit to collect his ARVs two months ago, he had the same weight. The only comment written in the health passport was "no complaint".*

*Louis has now been brought to hospital by his mother with complaints of having yellowish diarrhoea and vomiting which started four days ago. For the last three days he has been very weak. This is the first time he has been admitted to hospital. His mother says that he has been taking his ARVs, but there are no records to check adherence.....*

*Louis is severely malnourished and wasted. His upper arm measurement is only 9.3 – which is well in the red. Since his last visit to a health centre, less than two months ago, he has lost 4 kilos. He now weighs only 11 kilos. This now gives him a BMI far off the bottom of the chart...*

## STOP POINT

### WHAT DO YOU LOOK FOR IN A PHYSICAL EXAMINATION? WHAT TESTS WOULD YOU ORDER?

1) Look for other opportunistic infections. Particularly candidiasis, otitis, Swollen glands and other TB signs. He might have lots of different things.

2) He needs a viral load test and CD4 count.. Clinically needs Hb, blood tests, x-ray for TB.

 *Louis is clearly very weak. He finds it an effort to stand up or to walk. He still has diarrhoea. He has sunken eyes and oral sores inside his mouth at the back of his tongue. But he does not have a fever and tests negative for Malaria. In fact he feels very cold. His mother also looks sick and herself weighs only 35 Kilos. A chest X-ray, viral load and CD4 count of Louis are ordered. But the blood test results will take some time to come back.*

## STOP POINT

CD4 and Viral load ordered.  
 CD4 results take several days, Viral load results take 3 weeks  
 Malaria: negative

Nutrition assessment:  
 Weight: 11 kgs !!!  
 Height: 103 cm  
 MUAC: 9,3 cm (red)

**WHAT WOULD BE YOUR DIFFERENTIAL DIAGNOSIS?**  
**HOW WOULD YOU EVALUATE FOR TREATMENT FAILURE?**  
**WHAT WOULD YOUR MANAGEMENT BE?**

- 1) Severe wasting/Marasmus Malnutrition in Immunosuppression, Gastroenteritis  
 Differential Diagnosis: Treatment failure or poor adherence to ART leading to advanced stage of AIDS  
 Louis has been sick for a long period of time after starting ART and has clearly been failing to thrive. This should have been picked up at the health centre by looking at his weight. Both poor adherence or treatment failure are the most likely possible causes. If investigations had started earlier there would have been time to check his adherence before making a decision about switching. But now it is very late.
- 2) With time in hand treatment failure needs to be evaluated using viral load tests and intensive counselling. But with Louis time has run out. So there is a strong argument for using clinical judgement only as he will not survive the delay.
- 3) There is a strong argument for switching to second line, combined with aggressive treatment of opportunistic infections for his only hope of survival.

 *Louis is diagnosed with severe wasting and gastroenteritis, likely caused by treatment failure or poor adherence. TB also needs to be ruled out. He is admitted to the malnutrition ward and started on antibiotics and a feeding program, pending blood test results.*

## 2 DAYS LATER

*Louis' condition has got worse: His mother says he can still only take very small amounts of food and liquid at a time, otherwise he vomits. A heater has been put by his bed to try to keep him warm. He is unable to stand or sit without some support. His body feels cold all over.*

## STOP POINT

### 1 DAY LATER LOUIS DIED.

**WHAT ELSE MIGHT HAVE BEEN DONE TO PREVENT HIS DEATH?**  
**WHAT ELSE NEEDS TO BE DONE NOW?**

- 1) Louis should have been checked out for treatment failure much earlier.

2) Check about the rest of the family.

Louis' mother has four older children. She says all have tested HIV negative. She also has a three-year-old daughter who, she says, was given six weeks of nevirapine syrup and also tested negative after she finished breast feeding. Louis' father tested positive at the same time as Louis and is on ART.

Louis mother needs to be assessed for treatment failure and TB. Father should also be assessed in case they all have a resistant virus.