

# Maternal Schistosomiasis Causing Stillbirth : A Case Report in Madagascar

Hary Fanambintsoa RABARIKOTO<sup>1\*</sup>, Théodore RAZAFINDRABIA<sup>2</sup>, Zara Alain NTOE<sup>3</sup>,  
Setriny Mahatsangy RAVOAVY<sup>4</sup>, Hery Rakotovo ANDRIANAMPANALINARIVO<sup>5</sup>

<sup>1</sup>Department of Gynecology and Obstetrics, Military Hospital, Antsiranana, Madagascar.

<sup>2</sup>Department of Gynecology and Obstetrics, Military Hospital, Antsiranana, Madagascar.

<sup>3</sup>Department of Biology, University Hospital Center Tanambao I, Antsiranana, Madagascar.

<sup>4</sup>Department of Pediatric, Military Hospital, Antsiranana, Madagascar.

<sup>5</sup>Department of Gynecology and Obstetrics, University Hospital Center Befelatanana, Antananarivo, Madagascar.

hrabarikoto@yahoo.com

**\*Corresponding Author:** Hary F. Rabarikoto, Department of Gynecology and Obstetrics, Boulevard Sakaramy, Military Hospital, Antsiranana, Madagascar.

## Abstract

Forty million women in childbearing age are infected with schistosomiasis. During pregnancy, maternal schistosomiasis may lead to poor birth outcomes. This disease is associated with prematurity, low birth weight and miscarriage. We report a case of schistosomiasis in Malagasy 27-year-old woman who was admitted at gestational week 32 for pelvic pain and important jaundice. A few time after admission, she gives birth to a 1750g female newborn with a very important clinical sign of portal hypertension. The child died two hours after birth. We report this case in order to remember that maternal schistosomiasis can be fatal to the fetus if it is not treated.

**Keywords:** Maternal schistosomiasis, Congenital schistosomiasis, Stillbirth, Madagascar.

## INTRODUCTION

Schistosomiasis is the third most devastating tropical disease, after malaria and intestinal helminthiasis.[1] Women is at high risk of this disease. Forty million women in childbearing age are infected [2]. During pregnancy, maternal schistosomiasis may lead to poor birth outcomes. This infection have been implicated in fetal growth restriction and is associated with prematurity and low birth weight. [3] We aim to report a case of schistosomiasis congenital in order to remember that maternal schistosomiasis can be fatal to the fetus, causing stillbirth.

## CASE PRESENTATION

This is a newborn from a fourth gestation of a Malagasy 27-year-old woman. Her previous pregnancy was normal. She was referred to Military Hospital Antsiranana from Bobaomby for pelvic pain and an important jaundice at gestational week 32. Her pregnancy was not regularly watched over but she

had an ultrasound two weeks ago to know the sex of the fetus. During this examination, the obstetrician had prescribed biological tests, as she saw an intra-abdominal effusion in the fetus and a very important jaundice in the mother. The patient had performed the prescribed checkups but did not return to show the results to the doctor.

At the consultation of her health book, the requested serology was negative : Ag Hbs, HIV, syphilis, toxoplasmosis and rubella ; ASAT at 201 UI/L; ALAT at 139 UI/L ; total of bilirubinemia at 27,8 mg/L; combined bilirubinemia at 23,2 mg/L and hemoglobin at 9g/L.

In her antecedents, she reports blood in her stool and in urine three months before pregnancy and during this last.

At admission, fetal cardiac activity was low. Patient vaginal examination revealed a complete cervical dilation and vertex engaged with broken membranes. After a few time, she gives birth to a 1750g female

## Maternal Schistosomiasis Causing Stillbirth : A Case Report in Madagascar

newborn with a very important jaundice and clinical sign of portal hypertension associating an abdomen very distended by ascites, a significant collateral circulation and splenomegaly suggesting congenital schistosomiasis (Figure 1). A blood sample was taken from the cord and from the mother to perform a schistosomiasis serology. The serology of *Schistosoma* was positive at 1/320 in the mother and 1/640 in the fetus according to the technique of quantitative determination by indirect hemagglutination of seric antibodies.

He was died two hours after birth. Autopsy and histological examination were strongly refused by the parents and the fetus and his placenta were quickly buried. However, the clinical examination associated with the positivity of bilharzeal serology led to the diagnosis of congenital infection.

The patient had been treated by praziquantel after childbirth and the evolution was good.



**Figure1.** *Female newborn with jaundice, abdomen distended and collateral circulation.*

### DISCUSSION

Two species *Schistosoma* are endemic in Madagascar: *Schistosoma haematobium* and *Schistosoma mansoni*. The patient had both hematuria and bloody stool episodes leading to concomitant infestation by both species. Generally, gravity signs appear in the chronic stage. *Schistosoma mansoni* cause abdominal pain, bloody diarrhea, and colonic polyposis. Symptoms include portal hypertension, hematemesis, ascites, splenomegaly, and esophageal variceal bleeding is due to periportal fibrosis secondary to the modification of

the portal system by eggs. *Schistosoma haematobium* deposit their eggs in the urinary tract system and leads dysuria, hematuria, bladder polyps, in the majority of cases. [1] Whatever the schistosomiasis involved, the appearance of jaundice must be considered as a sign of gravity.

During pregnancy, the time of placental passage is poorly understood in human. But schistosomiasis may involve the placenta of pregnant women when eggs are trapped in placental tissue in both *Schistosoma haematobium* and *Schistosoma mansoni* infections [3]. In the Philippines, Kurtis JD et al confirm that schistosome antigens can enter the placental compartment and cross the placenta to the fetus causing acute subchorionitis and fetal inflammation in maternal schistosomiasis japonicum infection during pregnancy.[4] It's this inflammation which is associated with decreased birth weight. In the literature, newborns have been diagnosed with this disease. [1] In the case that we report, the fetus was died with clinical portal hypertension, confirming congenital advanced.

Diagnostic proof of schistosome infection in placental tissue should have been performed by histological and biological examination. According to Holtfreter and al, standard histopathological methods only allow the examination of a limited amount of placental tissue and are therefore not sufficiently sensitive. Tissue maceration technique may contribute to clarifying the role of placental involvement in pregnant women with schistosomiasis by highlighting the eggs of schistosomes. [3]

In Madagascar, an examination of the placenta requires parental authorization. Indeed, according to the tradition this one is recovered by the family immediately after birth to be buried. This burial of the placenta is a mandatory custom for the majority of the Malagasy people. The non-respect of this custom could, according to the beliefs, harm the newborn as much on its physical as mental health. The evidence of a placental infestation could not be proved for our patient.

Schistosomiasis antigen screening techniques are not available in Madagascar. Our diagnosis was then posed on a cluster of clinical argument and on the positivity of the serology based by the detection of antibodies in the blood in cord. In endemic rural communities Nigeria, microhematuria was the best diagnostic indicator of urogenital schistosomiasis during

## Maternal Schistosomiasis Causing Stillbirth : A Case Report in Madagascar

pregnancy with sensitivity (82,7%) and specificity (89%). There value were 100% in first trimester [5] this technique may be used in country with low resource like Madagascar. In the case of our patient, the observation of the presence of blood in the urine should have caused suspicion of a schistosomiasis. This clinic sign is used as an indirect rapid diagnostic marker in resource poor rural settings.[5] Treatment with praziquantel monodose at 40 mg / kg could have been initiated if the health staff who had received it in the first trimester had been diagnosed with the disease.

### CONCLUSION

Even if screening, of schistosomiasis is not part of the usual routine prescribed in Madagascar and in endemic areas, hematuria or blood in the stool should cause this condition to be feared and prescribed. Common urine analysis may orientate the diagnostic. Treatment with praziquantel would avoid the complication maternal an fetal.

### REFERENCES

[1] Nour NM. Schistosomiasis: Health Effects on Women. *Reviews in obstetrics & gynecology* 2010; 3(1): 28-32. Holtfreter MC, Neubauer H, Groten T, ElAdawy H, Pastuschek J, Richter J et al.

- Improvement of a tissue maceration technique for the determination of placental involvement in schistosomiasis. *PLoS Negl Trop Dis* 2017; 11(4): e0005551. <https://doi.org/10.1371/journal.pntd.0005551>
- [2] Friedman JF, Mital P, Kanzaria HK, Olds GR, Kurtis JD. Schistosomiasis and pregnancy. *Trends Parasitol* 2007; 23 (4):159-164. doi: 10.1016/j.pt.2007.02.006
- [3] Holtfreter MC, Neubauer H, Groten T, ElAdawy H, Pastuschek J, Richter J et al. () Improvement of a tissue maceration technique for the determination of placental involvement in schistosomiasis. *PLoS Negl Trop Dis* 2017; 11(4): e0005551. <https://doi.org/10.1371/journal.pntd.0005551>
- [4] Kurtis JD, Higashi A, Wu HW, Gundogan F, McDonald E A, Sharma S et al. Maternal Schistosomiasis Japonica Is Associated with Maternal, Placental, and Fetal Inflammation. *Infect Immun* 2011; 79: 1254–1261. doi:10.1128/IAI.01072-10.
- [5] Oyeyemi OT, Odaibo AB. Maternal urogenital schistosomiasis; monitoring disease morbidity by simple reagent strips. *PLoS ONE* 2017; 12 (11): e0187433. <https://doi.org/10.1371/journal.pone.0187433>

**Citation:** Hary Fanambinantsoa RABARIKOTO, Théodore RAZAFINDRABIA, Zara Alain NTOE, Setriny Mahatsangy RAVOAVY, Hery Rakotovao ANDRIANAMPANALINARIVO. *Maternal Schistosomiasis Causing Stillbirth : A Case Report in Madagascar. Open Access Journal of Gynecology and Obstetrics.* 2018; 1(1): 52-54.

**Copyright:** © 2018 Hary Fanambinantsoa RABARIKOTO, Théodore RAZAFINDRABIA, Zara Alain NTOE, Setriny Mahatsangy RAVOAVY, Hery Rakotovao ANDRIANAMPANALINARIVO. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.