

Bilharzia



News

latest medical news

[Bird Flu](#)

January 27, 2017

[The ABCDE Method.](#)

December 7, 2016

[Bilharzia](#)

November 16, 2016

[My child won't listen](#)

May 16, 2016

[Yellow fever](#)

April 28, 2016

Schistosomiasis usually known as Bilharzia has been identified by WHO as one of the 6 "neglected diseases". We are not surprised: we have been diagnosing thousands of cases over the last 20 years and only surprise is that most people have never heard of it.

There are many different species, and the one most people have heard of is Schistosoma heamatobium. It lives in the wall of the bladder and causes blood in the urine. That is not the dominant species in our end of Lake Victoria. We have S.Mansonii that lives mostly in the bowel wall. So when hospitals in Europe say they did not find Bilharzia it could be because they are looking for the wrong species in the wrong place.

Bilharzia is important because it can live for 15 years and cause nasty symptoms: in the unlucky few it can get into the brain and cause epilepsy, into the spinal cord and cause paralysis, or into ovaries and tubes and cause infertility. The good news is for most people it just makes them feel tired. The best weapon is knowledge so understand the disease and you can work out how to manage it.

We start with the eggs in faeces. If people shit on the ground, the rain washes the eggs into the rivers swamps or lakes. The eggs are invisible but huge by parasite standards, about 80 microns long. They hatch in the water and turn into a miracidium that swims in the water. If it is lucky it will find the right species of fresh water snail. For the rest of the snail's life it will produce about 10,000 cercaria a day.

They are free swimming but don't go far and don't live long, about an hour. If you are in contact with that water then the cercaria penetrate intact skin and get into your blood. It changes its name to a schistosomule and somehow finds its way to the liver. There the little boys and little girls meet, pair up and grow to be about 2cms long. They are flukes, not "worms". The male is all muscle. Aren't we all. The female is a long egg laying tube. No comment. Once mature he wraps himself around the female and swims down the hepatic veins to the terminal venules, where they spend their entire life in permanent copulation. No wonder it makes us feel tired.

Once fully mature she starts to lay eggs. The eggs work their way into the tissues and cause a big immune response. If the flukes are in the wall of the bowel some eggs find their way into the lumen, are passed in the stool, wash into the lake, hatch and go off to torment another snail. The eggs are so few they are

seldom found in a stool sample, so if they are seen it is a bit of a fluke

The problem is most eggs get lost, are not expelled into the bowel and the symptoms are the result of the immune response to the eggs. This can be quite intense at the beginning, and results in a fever called katayama syndrome. In East Africa it is often called safari itch as part of the immune reaction is a fleeting urticaria that "goes on safari" causing itching wheals lasting a few hours and disappearing before appearing somewhere else. There can be a spiking fever, often joint pains, muscle aches, a headache, and cough. The immunity forms a granuloma around the eggs, a soft inflammatory mass that can be painful, grows and after many years causes fibrosis and calcification.

The local symptoms depend where the flukes are; if in the wall of the large bowel, then diarrhoea, or pain and cramps and never quite right bad guts. In the ovaries and tubes it can cause the whole array of gynaecological symptoms and infertility. If in the prostate it causes urine problems, and permanent fibrosis makes you an old man 20 years too soon. If in the testicles it causes orchitis: let's not talk about that.

Worse some flukes can get a bit lost and finish up in the spinal cord. There the granuloma causes a rapidly progressive paralysis. In the brain it can cause sudden onset epilepsy and raised intracranial pressure resembling a brain tumour. In the lungs they look exactly like secondary cancer on x-ray

The scary thing is the diagnosis is almost always missed: some specialists even deny they can cause neurological or pulmonary or gynaecological symptoms. I remember a self medevac'd cough that came back from UK claiming to be the "first case of Bilharzia in the lung ever seen". Er.....or perhaps not.

The good news is for most people it just causes vague unwell and tired all the time. The even better news is it is easily treated.

And from this very sketchy knowledge base we can work out how to deal with Bilharzia.

First of all the cercaria only live an hour. The Kampala tap water is pumped from deep water far away from shore so NWSC water is perfectly safe. Hotels and resorts along the lake and the Nile that pump directly from the river or lake have a theoretical risk of giving you Bilharzia in the tap water: remember it gets into you through intact skin not drinking. All we can say is that people who have been to some of the best resorts often have Bilharzia 6 weeks later. Did they swim in the river or get it from the hand basin? I don't know. Best answer? Get tested 6 to 8 weeks after a visit to a river or lake side resort. A simple urine test and a result in 15 minutes.

It comes through intact skin. So it is true all water sports are a risk. I have seen ridiculous advice in some tourist and ngo websites. One suggested vigorous towelling within 10 minutes of exposure. Where did that come from? Others teach strict total water avoidance promising medical mayhem if you go in any fresh water in Africa. Then the same health article suggests that sex for tourists is safe with a condom. I suggest the priorities are upside down! I sail most Sundays at Kaazi, exposed to shallow, snail infested water every week and my urine Bilharzia rapid diagnostic test is always negative. Whereas we have a special term for couples who rely on condoms: we call them parents.

So yes you can try and prevent it by frantically avoiding any fresh water that doesn't come with an EU approved health and safety sticker. Or you can think water sports are good healthy outdoor exercise, it is difficult to smoke a cigarette while water skiing, and Bilharzia is easily treated.

Next the new shistosomules have to mature in the liver. This takes quite a long time. The drug praziquantal does not work on developing flukes, only mature adults so early treatment cannot prevent it. However one drug can. Artemether. This is the routine antimalarial drug, and many years ago we recommended it for Bilharzia prevention by taking a dose a week after exposure.

Problem now is arthemether alone is no longer manufactured because mono-treatment might result in malaria drug resistance. So it is only available as a fixed dose combination. But if you want to go that route there is still an option. Artemether tea. If you take one sachet of the tea once a week it will probably prevent Bilharzia by killing them in the liver.

No one knows how the little boys and girls meet in an organ as big as the liver. One theory is in some sort of intrahepatic discotheque. This explains why the Nile river rafters play very loud music at a party after rafting to try and confuse the baby flukes and stop them meeting. It seems to work as most tourist rafters don't get Bilharzia.

Once mature they swim down the hepatic veins to the deep venules. All this time they are invisible to our immunity and cause no symptoms at all. You forget you had a shower in that lovely resort 6 weeks ago.

Then you get a fever. And lower abdominal pain. And a cough.

Well it must be malaria, right? Everyone gets malaria don't they? Or typhoid, that's in the stomach isn't it? Or the cough must be that new disease that has just been invented "bacterial infection". Eventually either return to good old common sense and think hang on a bit this is going on a bit long, or remember Bilharzia! Let me go and get tested.

Unfortunately most victims have been to elsewhere clinic and been given antimalarials and antibiotics often multiple times. Don't worry: for the vast majority the initial fever goes, the symptoms die down and you just feel tired. Most of our patients come after months or years of tired all the time and never quite well.

Bilharzia in the brain is rare. Bilharzia in the pelvic organs is common and most ladies have gynae symptoms. Most men have men's symptoms. It can even produce horrid little granulomata just where you really don't want them and look just like warts. Good news! We recognise this! Keep your clothes on, no fingers required anywhere, just listen to the symptoms ask "have you been in any lakes rivers or swamps?" and a quick urine test.

What happens if you have had Bilharzia for a long time, it has been missed and it has caused permanent damage? The truth is it does cause infertility and prostatic fibrosis and this can be permanent. And yes chronic Bilharzia is related to bladder cancer. Good news it really is rare. Most symptoms rapidly improve after treatment. Fibrosis is permanent but not always symptomatic and if you read this before you go in the lake you won't wait a long time to be diagnosed.

So what is Bilharzia quick diagnosis then? Is it easily diagnosed?

Actually not. It is very difficult to diagnose. The gold standard is finding eggs and that is not easy. A very sensitive and specific test is a rectal biopsy and few people volunteer for it. The antibody test is good, but can take a long term to turn positive after symptoms begin and stays positive long after treatment so cannot diagnose re-infection.

A high eosinophil count in the initial acute stage is a great pointer but can be due to other things, and can drop to normal over time. The urine antigen test is probably the best field test: it will pick up most cases with a significant number of mature flukes but will miss low numbers. However it will often turn positive a few days later if it misses early disease. It can give false positives if there is blood in the urine or if there is some specific urine infections.

The good news is it is cheap, easy, takes 10 minutes and can be repeated. It will become negative after adequate treatment and positive again if re-infected.

So what is the answer?

As you have seen they cannot reproduce in us: the eggs only infect snails. If you have so few in some benign site such as the large bowel and it is missed then the constant immune response to the eggs actually produces antibodies to schistosomules so you don't get any more. They live maybe 8 years maybe 15 but eventually die from exhaustion.

If you have symptoms such as constantly tired, bad guts, vague gynae symptoms, constant feeling as though a urine infection or pain in the testicles then get tested. And if it is negative then instead of having that awful biopsy just treat it anyway. If you have been in the lakes or rivers and are leaving the country just treat it. However, if you feel fine, the test is negative then leave it.

So what about Bilharzia treatment?

The drug is praziquantal. They are enormous, taste awful and you have to swallow a lot of them. We have to ask the rudest question a man can ever ask a woman: how much do you weigh? Then it is 1 tablet per 10 kg to the nearest half. Easy. If you weigh 65 kg you need 6 and half tablets.

Problem. They make you very dizzy and drunk and if you swallow 7 or 8 tablets you will probably vomit. SO we advise take them in 2 doses 3 hours apart. If someone says take them half in the morning and half in the evening sorry, wrong, you are probably taking an under-dose twice. It is better to get them all down you by 4 hours. So our advice if you are 75 kg take 4 at 7.00pm eat your supper then take 3 and a half at 10 pm with a banana and some water and go to bed. By the morning you will feel normal.

Any serious side effects? Really no. That is why we suggest "symptoms plus exposure = treat". WHO eradication programmes say "you live in this village = treat". So better to treat even with a negative test than be tired for the next 10 years.

Does the treatment eradicate the worms? Unfortunately no. It actually paralyses them and they float up into the liver, are attacked by the liver enzymes (I really don't know how) and about 85% of them die. The survivors then have to find another partner and swim back down and start to lay eggs again.

That is why the symptoms often return a month after treatment. Not a problem. If the test is a strong positive we always treat twice. Take another 8 and a half tablet with supper 1 month later. A few more complications: if the flukes are in one of the really unlucky places like spine or brain then extra treatment is required. Don't worry; we know how to do it.

More good news. Hundreds of flukes disintegrating in your blood causes another immune response. Think about it: some vaccine is injecting dead organism into the blood isn't it? So treatment boosts immunity. Get re-infected and teated often enough and eventually you can go in the lake from now until Christmas and don't get Bilharzia. You are immune. Ask any Kaazi sailor. However immunity does fade with time so you have to keep going back into the lake and sailing often enough to keep the immunity boosted. At least that is what sailors tell their wives.

Bottom line?

Bilharzia is common, often missed, and can be nasty. The answer is be aware: if you go in the water get tested after 6 to 8 weeks. If you are leaving the country get tested: if in doubt one option is just swallow the tablets anyway. If you are tired, vague symptoms and no one can work out what is wrong, think Bilharzia.

Nov 16, 2016 | Posted by [Gunna](#) in [Blog and Articles](#), [News](#) | [0 comments](#)

Add Your Comment

Your email address will not be published.

Comment

Name (required)

Email (required)

Website