

Schistosomiasis (Bilharzia): Is it a biological Weapon?

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Abstract: Egypt spends lots of money for funding the development of medicine for this disease. Is this the good direction of research? Villagers, who do not obey to instructions of doctors in their villages of avoiding to swim in the Nile River, do not deserve all this attention while the Egyptian army, in the other side, searches all possibilities to avoid war with Israel. Such a biological weapon may differ.

Keywords: Bilharzia, Biological weapon, Genetic engineering

1. Overview

Many Egyptians think that the effect of Bilharzia on the Egyptian body is not serious because of the adaptation over generations. There is no scientific research concerning the effect of Bilharzia on other races. Even if this parasitic disease has a small effect on the other races, we can use the genetic engineering to produce more developed kinds of bilharzia that are able to kill and threaten the human race.

The question is why we choose bilharzia?

We must know that bilharzia enters the human body without his feeling and remains in the liver-

Penetration of the human skin occurs after the cercaria have attached to and explored the skin. The parasite secretes enzymes that break down the skin's protein to enable penetration of the cercarial head through the skin. As the cercaria penetrates the skin it transforms into a migrating schistosomulum stage.

The newly transformed schistosomulum may remain in the skin for 2 days before locating a post-capillary venule; from here the schistosomulum travels to the lungs where it undergoes further developmental changes necessary for subsequent migration to the liver. Eight to ten days after penetration of the skin, the parasite migrates to the liver sinusoids. *S. japonicum* migrates more quickly than *S. mansoni*, and usually reaches the liver within 8 days of penetration. Juvenile *S. mansoni* and *S. japonicum* worms develop an oral sucker after arriving at the liver, and it is during this period that the parasite begins to feed on red blood cells.

Now we need a strong poison that affects the liver, which is the aflatoxin.

High-level aflatoxin exposure produces an acute hepatic necrosis, resulting later in cirrhosis, and/or carcinoma of the liver.

Taking the gene of producing the aflatoxin from the genomic sequence of Aspergillus flavus (Aflr) and adding this gene to the genomic sequence of Bilharzia may convert the bilharzias to a kind of toxic bilharzias.

In any way, the advice for Egyptian research is to stop developing medicine for treatment of bilharzia and take it as a basis for biological weapons.

2. References

[1] The Carter Center. "Schistosomiasis Control Program".

<http://www.cartercenter.org/health/schistosomiasis/index.html>. Retrieved 2008-07-17

- [2] Donald G. McNeil, Jr. (May 25, 2009). "Parasites: Giving a Deworming Drug to Girls Could Cut H.I.V. Transmission in Africa". *The New York Times*. <http://www.nytimes.com/2009/05/26/health/26glob.html>.
- [3] Hotez PJ, Fenwick A, Kjetland EF (2009). "Africa's 32 Cents Solution for HIV/AIDS". *PLoS Negl Trop Dis* **3** (5): e430. doi:10.1371/journal.pntd.0000430. PMC 2682705. PMID 19479041. <http://www.plosntds.org/article/info%3Adoi%2F10.1371%2Fjournal.pntd.0000430>.
- [4] James, William D.; Berger, Timothy G.; et al. (2006). *Andrews' Diseases of the Skin: clinical Dermatology*. Saunders Elsevier. ISBN 0-7216-2921-0.
- [5] Stothard, J. Russell; et al. (2005). "Field Evaluation of the Meade Readview Handheld Microscope for Diagnosis of Intestinal Schistosomiasis in Ugandan School Children". *Am. J. Trop. Med. Hyg.* (American Society of Tropical Medicine and Hygiene) **73** (5): 949–955. PMID 16282310. <http://looksmall.com/images/stothardabstract.pdf>.
- [6] The Gopu Berry p33. Part 4 School Journal number.2 1989 Dept of Education Wellington N.Z.
- [7] Mølgaard P, Chihaka A, Lemmich E, et al. (December 2000). "Biodegradability of the molluscicidal saponins of *Phytolacca dodecandra*". *Regul. Toxicol. Pharmacol.* **32** (3): 248–55. doi:10.1006/rtp.2000.1390. PMID 11162718. [http://linkinghub.elsevier.com/retrieve/pii/S0273-2300\(00\)91390-4](http://linkinghub.elsevier.com/retrieve/pii/S0273-2300(00)91390-4).
- [8] Charnock, Anne (7 August 1980). "Taking Bilharziasis out of the irrigation equation". *New Civil Engineer*. "Bilharzia caused by poor civil engineering design due to ignorance of cause and prevention".
- [9] *The IRG Solution — hierarchical incompetence and how to overcome it*. London: Souvenir Press. 1984. p. 88.
- [10] The Carter Center. "How is Schistosomiasis Treated?". Archived from the original on 2008-02-25. <http://web.archive.org/web/20080225084801/http://www.cartercenter.org/health/schistosomiasis/treatment.html>. Retrieved 2008-07-17
- [11] "BILHVAX — A VACCINE AGAINST BILHARZIOSE, A world first!". 20 April 2009. <http://www.eurogentec.com/news/104-bilhvax-a-vaccine-against-bilharziose-a-world-first-.html>.
- [12] "300.000 morts évitées grâce au vaccin liégeois!". 20 April 2009. http://www.lameuse.be/regions/basse_meuse/2009-04-20/liege-eurogentec-vaccin-extraordinaire-697330.shtml.
- [13] "Eurogentec, la société de biotechnologie située au Sart Tilman, produit et produira le vaccin contre la bilharziose.". 22 April 2009. <http://www.lalibre.be/actu/gazette-de-liege/article/497184/un-important-vaccin-produit-a-liege.html>.
- [14] Danso-Appiah A, Utzinger J, Liu J, Olliaro P (2008). Danso-Appiah, Anthony. ed. "Drugs for treating urinary schistosomiasis". *Cochrane Database Syst Rev* (3): CD000053. doi:10.1002/14651858.CD000053.pub2. <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000053.pub2>.
- [15] See, for example, Soliman OE, et al. (December 2004). "Evaluation of myrrh (Mirazid) therapy in fascioliasis and intestinal schistosomiasis in children: immunological and parasitological study". *J Egypt Soc Parasitol* **34** (3): 941–66. PMID 15587320.
- [16] Botros, S; Sayed, H; El-Dusoki, H; Sabry, H; Rabie, I; El-Ghannam, M; Hassanein, M; El-Wahab, YA et al. (February 2005). "Efficacy of mirazid in comparison with praziquantel in Egyptian Schistosoma mansoni-infected school children and households". *Am J Trop Med Hyg* **72** (2): 119–23. PMID 15741544. <http://www.ajtmh.org/cgi/content/full/72/2/119>.
- [17] Oliveira, G.; Rodrigues N.B., Romanha, A.J., Bahia, D. (2004). "Genome and Genomics of Schistosomes". *Canadian Journal of Zoology* **82** (2): 375–90. doi:10.1139/Z03-220. <http://www.ingentaconnect.com/content/nrc/cjz/2004/00000082/00000002/art00012>.
- [18] Kheir MM, Eltoum IA, Saad AM, Ali MM, Baraka OZ, Homeida MM (February 1999). "Mortality due to schistosomiasis mansoni: a field study in Sudan". *Am. J. Trop. Med. Hyg.* **60** (2): 307–10. PMID 10072156.
- [19] Strickland GT (May 2006). "Liver disease in Egypt: hepatitis C superseded schistosomiasis as a result of iatrogenic and biological factors". *Hepatology* **43** (5): 915–22. doi:10.1002/hep.21173. PMID 16628669.



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