New Perspectives in Treatment of Human Scabies: Biological Pesticids could be a Completely Safe Alternative of Chemical Pesticides and Medicinal Creams

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Abstract

Crusted scabies sometimes would be seriously hard to treat. The treatment, through application of chemical pesticides and medicinal creams, comes with a large amount of side effects. These side effects could be much worse in infants and also in pregnant women. Moreover toxins may cause cancer in people. People need safer medicine that they use without being concerned about the side effects. Bio-pesticides from the farming industry attack the farming parasites. And there could be some bacteria which can do a same thing about human parasites. Recent studies shows, there are several types of bacteria that attack and kill parasites from inside out. It might also one day be used in “human treatments” for roundworm. Recent advancements in electron microscopy, microbiology, and genetical engineering is developed a reliable path towards manufacturing biological pesticides. These pesticides would help us as anti-scabies drugs. We would call them bio-scabiside drugs. "Chryseobacterium nematophagum" effectively kills a wide range of important nematode parasites. Some challenges are ahead in the way, unless we make a cream that kills the humankind scabies too. But this bio-cream would be a healthy alternative for the people.

1 Introduction

Human scabies are from the genius *sarcoptes scabiei*. This type of parasitic infection is considered as a contagious disease. A parasite is an organism that lives on or in a host organism and gets its food from or at the expense of its host. There are three main classes of parasites that can
cause disease in humans: protozoa, helminths, and ectoparasites. Thus, we would consider scabies and mites as parasites. When these types of parasites remain in the body they would lay a lot of eggs under the skin. It would form an advanced state of the infection; which is called crusted scabies infection. Crusted scabies disease is a disease which sometimes would be seriously hard to treat. The treatment, through using chemical pesticides and medicinal creams, even when the treatment is successful, comes with a large amount of side effects. The permethrin cream and crotamiton cream are a few of those chemicals and pesticide creams, which may cause several side effects. These side effects could be much worse in infants and also in pregnant women. Moreover, toxins may cause cancer in people. Now let's imagine an example from the farming and agricultural industries. Now mind that inside a mushroom cultivation log, the mushroom spawns (as micro-organisms) during the first two stages of growth, start to spawn run inside of the logs and then they begin the colonization stage. In agricultural industries, where the cultivation logs get infected by microbes occasionally, the microbes would make some natural toxins or consume some vital nutritions of the cultivation substrate, during the first week, which would prevent mushrooms to get feed and grow adult and big over the next weeks. Also inside a medicinal laboratory where the staff make penicillin from penicillium molds, when there is a high amount of penicillium molds alive in the cultivation bags there would be only a little chance for the other molds to grow well inside the bags. Meanwhile the penicillium molds attack and eat the competitive molds that live in the cultivation substrate. In fact these activities of the penicillium would disturb the micro-ecosystem and the habitual living environment of them. As another example, when you consume some health supplemental probiotic caps, from a scientific view, in fact you are trying to get healthy by increasing the good bacterias which exist inside these caps (which make beneficial enzymes inside of the digestive tract), and also you want to suppress the activity of harmful bacterias of the intestine, since those probiotics (good and beneficial bacterias) would suppress and decrease the activity of the other harmful bacterias of the digestive tract. These examples are only a few methods that a micro-organism (mold or bacteria) may suppress or attack another micro-organism. But it’s not necessarily only true for two types of competitive molds, or bacteria. And also this fact is only half of the story. It’s notable that there are already several bio-pesticides available in the farming industry for farmers and their plants that attack the farming parasites. Recent studies shows, there are several types of bacteria that attack and kill parasites (not just the competitive microbes) from inside out, just in a few hours. It might also one day be used in “human treatments” for roundworm. Recent advancements in electron microscopy, microbiology, and genetical engineering is developed a reliable path towards manufacturing biological pesticids, or genetically engineering such beneficial bacterias in labs for mass production. These pesticids would help us as anti-scabies drugs. We would call them bio-scabiside drugs. "Scientists have come across a new species of bacteria they’re calling ‘golden death’ – microorganisms that can devour their parasitic roundworm hosts in hours by eating them from the inside out."—David Nield; The Nature Magazine. "This study describes a newly
discovered bacterial species, called *Chryseobacterium nematophagum* – or *golden death bacillus* – that effectively kills a wide range of important nematode parasites,” says one of the researchers, parasitologist Antony Page from the *University of Glasgow* in the UK. However yet there would be some challenges ahead, unless the pharmaceutical industry makes a cream that kills the humankind scabies too. But this *bio-cream* would be a healthy alternative for the people.

2 References