

CancerDecisions Newsletter Archives

For April 25, 2004

REALITY-BASED INVESTIGATIONS

This week I analyze a Cuban remedy called *Escozul*. This product is based on the venom of the blue scorpion and is attracting a growing amount of attention, especially in Latin America. Medical opinion on this treatment is divided. Small groups seem to think that it is a really valuable new medicine. Others reject it with the same kind of knee-jerk reaction that many in orthodox medicine exhibit towards all strange-sounding remedies.

Here at the Moss Reports our approach is different. We conduct reality-based investigations, and look on all proposed treatments sympathetically, regardless of how weird they sound. At the same time, we insist on scientific evidence for claims of effectiveness, and look for solid proof, preferably in the form of studies published in peer-reviewed medical journals, that treatments actually extend the lives of human beings. Admittedly, investigating reports of new treatments can be very difficult, especially when those treatments originate in countries as hard to access as Cuba. But try we must.

Recently I read of a scientist who has proclaimed his refusal to seriously investigate any new alternative treatments, on the grounds that all previous investigations have failed to substantiate cures. Even if that were true (and it is a substantial distortion of the facts) it would be an untenable position. Every new treatment, alternative or conventional, deserves serious consideration on its own merits. Dismissing all alternative treatments on account of a failure to date to come up with any overwhelmingly positive results is a manifestation of prejudice rather than rational thought, and it is a dangerous and unwelcome development.

At the *Moss Reports*, we will continue to pursue our policy of "*friendly skepticism*" towards all new treatments, including *Escozul*. Of course, hard experience has taught us that many proposed innovations turn out to be based more on wishful thinking than solid science. And, sadly, financial scams sometimes masquerade as humanitarianism. But since most conventional treatments for advanced cancer are also usually ineffective, the world desperately wants and needs alternatives. For that reason, my staff and I will continue to independently examine all alternatives with a friendly but skeptical eye.

I have written **over 200 reports** on various cancer diagnoses that pursue this approach towards conventional, complementary and alternative treatments. These are continually being updated with the latest research results. I also offer personalized phone consultations to patients and their loved ones. To find out more please visit our website, www.cancerdecisions.com, or call my office

at **800-980-1234** (from abroad call 814-238-3367). We look forward to helping you.

A FRIENDLY SKEPTIC LOOKS AT ESCOZUL

Escozul is a folk remedy for cancer, made from the diluted venom of the Caribbean blue scorpion (*Rhopalurus junceus*). Escozul is gaining popularity in Cuba, its birthplace, and in many other countries as well. Since the early 1990s, even some US citizens have gone to that "forbidden island" for treatment with this unusual substance, which was first developed in 1980 by a Guantanamo province biologist, Misael Bordier. Some years ago, Bordier conceived the idea of trying scorpion venom as a treatment for certain chronic conditions including cancers of various kinds. It seemed to have good effects and word quickly spread. Now many doctors in that area are said to frequently administer diluted doses of the toxin by mouth to patients with malignancies, as well as to those suffering from pelvic inflammation, renal failure, and Parkinson's disease. (Although pure venom is harmful to humans, this product is reputedly non-toxic when diluted and administered orally.)



Pictured Above: Blue Scorpion, *Rhopalurus junceus*

If you do not see the photo above or to see a larger image, click or go to the following link for a picture of the blue scorpion, *Rhopalurus junceus* at:

http://www.cancerdecisions.com/images/r_junceus2.jpg

Some readers have asked me if there is any truth to the glowing reports that are finding their way onto thousands of Web sites concerning its use as a cancer treatment. My basic answer is that while it shows some promise, it is still a very uncertain remedy. One should not abandon any well-documented therapy in

favor of undertaking a treatment about which so little is yet known.

Despite the fact that Cuba has a modern public health system, it is also a country with an entrenched belief in folk medicine. Although surgery, radiation and chemotherapy are provided free for all cancer patients, these treatments have all the limitations there that they do in other countries. In Cuba, as elsewhere, the public is on the lookout for safer and more efficacious treatments for cancer.

I for one do not think it impossible that blue scorpion venom could have a positive effect on some patients. There are over 100 articles in *PubMed* on the examination of scorpion venom in basic cancer research. A Chinese group has isolated neurotoxins from another species of scorpion, called *Buthus Martensii*, that has both anticancer ([Liu 2002](#)) and immune stimulating effects ([Yang 2000](#)). At the University of Alabama they have found that a scorpion product called *chlorotoxin* specifically binds to the surface of brain cancer (glioma) cells and impairs their ability to invade normal tissue ([Deshane 2002](#)). This is a very promising finding. If venom can paralyze or kill normal cells, it can plausibly do the same to malignant cells. But it needs emphasizing that none of the articles currently in *PubMed* is a clinical study and none refers specifically to the Cuban product Escozul. The jury is therefore still out on how useful this treatment may ultimately prove.

Since the outset, educated opinion in Cuba has been divided on the topic of Escozul. Some people considered the well-publicized reports of clinical benefit to be merely wishful thinking. Another group considered Escozul an outright fraud. A smaller group believed the treatment to be a "scientific challenge," according to the official Communist Party newspaper, *Granma* (January 16, 2003). Among this latter group is an engineer named Omar Cantillo, a nuclear physicist who has risen to be head of science and technology at the Ministry of Science, Technology and the Environment. He has long been open-minded towards this new treatment. According to *Granma*, a certificate of product registration has now been awarded by the Cuban Office for Industrial Property, under Resolution 3136/99, and it is due to come into effect in 2005. The license describes this by-product of scorpion venom as "*an anti-carcinogenic component that has new, inventive activity and application.*" The remedy is also said to have shown interesting results in HIV-AIDS patients who received it in outpatient clinics at the University hospital in Mbarara, Uganda, where Cuban physicians are working.

To date, more than 50,000 people in Cuba (an island of less than 12 million people) have received Escozul. Pro rata, this would be equivalent to more than a million Americans being treated with what is essentially an unproven remedy - something that dwarfs any of the similar crazes that have occurred here. Thousands more people in Mexico, Colombia, Spain, Italy, Argentina, the Dominican Republic, the Netherlands and even the United States have now used Escozul.

Bordier presented the remedy at the International Conference of Traditional Medicine and Alternative Therapies, which took place in Mexico in 2001. He

toured the country giving speeches ([PlanetSave.com](#) 2001). According to Granma, the Mexican press dedicated substantial space to revealing that 300 citizens of the Federal District who were suffering from malignant abnormalities were benefiting from the Cuban treatment, and reported Bordier's contributions to the Forum.

The Cuban government itself seems well disposed towards the product (which, incidentally, could bring in some desperately needed foreign exchange dollars). "In the battle between the scorpion and the crab," (i.e. cancer, ed.), "the scorpion will win," said Bordier.

(As an aside, it is encouraging that at least the scorpions are not killed in the making of the medicine. Bordier keeps them in boxes filled with damp earth and with an ample supply of the insects that they like to eat. Starting a year after they are born he periodically extracts the poison from the scorpions by applying a mild electric shock to the insects, causing them to release their venom. This process is repeated about once every 20 days, after which the scorpions are returned to their natural habitat. It is to be hoped that the increasing popularity of this remedy will not result in the extinction of this species, as unscrupulous operators begin seeking a slice of the profits.)

Lack of Knowledge

Superficially, at least, first reports about blue scorpion venom are encouraging. The acquisition of reliable knowledge about Escozul is, however, hampered by several formidable problems:

First is the US trade embargo on Cuba, which makes scientific communication and exchange, as well as travel, difficult, if not impossible. We US citizens may be missing out on more than Cuban cigars as a result of this embargo. It would seem to be a matter of urgency for both the American and the Cuban government to find out if Escozul really works. A sensible foreign policy would put aside political differences in a co-operative search for a cure. Perhaps growing American interest in Escozul will lead to a beneficial outcome in public policy. For now, however, we are reduced to surfing the Internet, since direct contact is nearly impossible.

Another problem is a lack of scientific publications, even in Spanish, on the topic. Cuba has a sophisticated biotech industry that exports a variety of medicines and diagnostics to more than 35 countries around the globe ([Sunderland 2002](#)). There is apparently no lack of capable researchers. But there is no reference to Escozul per se in the standard database of medical journal articles, *PubMed*, nor even an article on the blue scorpion from whose venom Escozul is produced. If such research could not be published in the US due to the trade embargo, there are certainly excellent non-US journals that would be interested in such articles. But promoters of this treatment have seemingly not been too inclined to communicate their findings in a rigorous way

to biomedical scientists around the world.

In my opinion, it is also foolhardy to treat 50,000 humans without first conducting any potency standardization testing, laboratory and animal studies, phase I-II studies in humans, and without any institutional review board (IRB) ethical supervision of the project. The potential for harm is real, even if many people anecdotally report that the treatment is non-toxic.

Meanwhile, it has to be said that the claims reported for the efficacy of Escozul seem wildly exaggerated. Particularly disturbing are the assertions (contained in several articles on the Internet) that the treatment was successful in nearly 97 percent of patients who had not undergone previous chemotherapy or surgery. It is not clear exactly what Bordier means by "success." According to a Mexican Web site:

"Cuban doctor Misael Bordier cautioned that while his patients were not cured of their cancers when treated with the venom of the Escozul scorpion, '97 percent of them experience improvements in their quality of life and see the size of their tumours greatly reduced.'"

This would of course need to be carefully documented. Meanwhile, there is ample reason to be skeptical. Over the years this type of sensational claim has been made often, but has never panned out. In fact, as a general rule, the more outrageous the claim, the more likely the treatment is to be a fraud. What worries me most is that exaggerated claims for the phenomenal efficacy of Escozul may present an irresistible attraction to many patients (especially the less skeptical), prompting them to avoid the conventional treatment that is being urged on them and to take this venom treatment instead. While I have written often enough about the limitations of conventional therapy, we must also recognize that avoiding treatment could be disastrous for someone who, for example, has an operable tumor but refuses curative surgery in favor of an uncertain venom treatment. One could easily imagine people dying as a result of such a mistake.

[A Remedy With a Sting in the Tail](#)

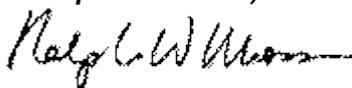
According to another Internet article (by a Cuban journalist named Mar Marin), among those who came to Dr. Bordier after surgery or chemotherapy, only 40 percent obtained good results with Escozul, and the mortality rate was 60 percent. "We don't know what causes the high mortality rate in these patients, but we do know we've been able to improve the quality of life of every patient," Bordier is quoted as saying.

I am disturbed by this reported mortality rate of 60 percent among those who had had prior conventional therapy. I am not sure what Dr. Bordier is trying to say to here. Is he claiming that despite chemotherapy, 40 percent of the patients were cured? Or is he alluding to some possibly harmful synergy when these two approaches are combined, leading to a surprisingly high mortality

rate?

Although in general I believe that conventional and alternative treatments can be fruitfully integrated, we must never rule out the possibility that combining various agents could actually be harmful to patients. Only carefully conducted - and published - studies can answer these questions and yield dependable results. No such studies have yet been done, and given the current political impasse it may be difficult to arrange any studies that would convince both Cuban and American experts. For the good of humanity, however, it would be worth trying.

--Ralph W. Moss, Ph.D.



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TOP