Making Radioactive Scorpion Venom Therapy Safe

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At the Henry Ford Health System in Michigan, an experimental radiation therapy which uses radioactive scorpion venom is being tested. For many, this will bring up comparisons to Spiderman's nemesis, the Scorpion. The purpose of this work is not science fiction, but rather to help to develop a promising new therapy for brain cancer. Scientists have been investigating the curative properties of many natural compounds and scorpion venom is no different. Scorpion venom preferentially binds to the cells of a type of essentially incurable brain cancer, gliomas. Based on this important property, scientists at the Transmolecular Corporation synthesized a radioactive copy of this compound for treating brain cancer patients.

Treating cancer patients with radioactive compounds is common medical practice but new treatments obviously present new safety concerns. The health physicist, or radiation safety specialist, has the duty to ensure to ensure that these therapies are conducted both legally and safely. To support this research handling and use procedures were developed which were substantially similar to those used in existing therapies. Obviously, a key objective is to bring these patients home and to ensure that their loved ones and the environment are properly protected. A considerable challenge encountered was developing a means by which patients could be released since practical knowledge about the retention characteristics of the therapy was poorly understood. This presentation discusses the techniques employed by the Henry Ford Health System clinical staff and the lessons learned.