




Case Report

Cuban Blue Scorpion Venom and Lung Carcinoma: Is it Always True What Does Not Kill Me Makes Me Stronger?

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Abstract

Historically snake, scorpion, and hymenoptera venom have been used to treat various diseases. It is well known that alternative and/or complementary treatment options are widely used, especially among cancer patients. The case we describe here has lung carcinoma and received blue scorpion venom as an alternative therapy. A 86 years old male patient was admitted complaining of dyspnea. Thorax computed tomography (CT) showed a mass lesion and intraparenchymal nodules on the left upper lobe. Percutaneous transthoracic biopsy was performed, and the diagnosis was reported to be an epidermoid carcinoma. After the shared decision, A shared decision with the family and oncology specialists, the patient decided to try Cuban blue scorpion venom oral drops. Initially, it was well tolerated. However on the sixth day of treatment, sudden death occurred. Scorpion venom has been considered as a natural source for cancer therapy. *Rhopalurus junceus* is an endemic scorpion species from Cuba. Although it belongs to the most dangerous species related to human scorpionism, and no fatal stings have been reported. Currently published articles investigate the composition and in vitro anti-cancer activity of the venom; there are no controlled clinical trials evaluating toxicity or effectiveness. Uncontrolled use of alternative treatment options may lead to unexpected interactions with concomitant medications.

KEYWORDS: Venom, Cuban venom, lung cancer**Received:** August 21, 2020**Accepted:** September 21, 2020

INTRODUCTION

Historically snake, scorpion, and hymenoptera venom have been used to treat various diseases; even the bite or sting of those have been used as a treatment modality in dermatologic and rheumatologic diseases as well. It is well known that alternative and/or complementary treatment options are widely used, especially among cancer patients. The global cancer burden is estimated to have risen to 18.1 million new cases and 9.6 million deaths in 2018.¹ Cancer patients who initially prefer alternative remedies over conventional cancer treatment were reported to be more likely to die.² It was shown that complementary and alternative medicine use among cancer patients in Tai was common and was associated with a delay in receiving conventional therapy.³

The case we describe here has lung carcinoma and received blue scorpion venom as an alternative therapy on his own wish.

CASE PRESENTATION

A 86 years old heavy smoker male patient was admitted complaining of dyspnea. He was otherwise well and taking his own personal care. His past medical history revealed coronary artery disease and compensated heart failure, benign prostatic hyperplasia, and mild dementia. On auscultation of the chest, breath sounds on the left upper lung field were diminished, his vital signs were normal with a respiratory rate of 14/min. His blood biochemistry was normal besides borderline decrease in total protein 63 g/L (68-81 g/L) and albumin 29.7 g/L (35-49 g/L). There was an opacity on the left perihilar region and computed tomography (CT) of the thorax on the chest X-ray. The thorax showed 11.64 × 6.38 mm mass lesion and multiple intraparenchymal nodules on the left upper lobe with no mediastinal lymphadenopathies. Cranial magnetic resonance imaging showed no metastasis. CT guided percutaneous transthoracic biopsy was performed and the diagnosis was reported to be an epidermoid carcinoma. He was receiving rivastigmin transdermal patch, memantin, and vortio-ksetin for dementia, dutasterid, and tamsulosin for prostatism, rivaroxaban 15 mg/day for atrial fibrillation, furosemide 40 mg/day for heart failure, lactulose for chronic constipation, multivitamins, and iron supplements.

A shared decision with the patient, family members, and oncology specialists was made as not to give cancer-specific therapy. The patient decided to try Cuban blue scorpion venom oral drops (Vidatox) that he heard from a friend as not harmful and beneficial in cancer therapy. Despite all warnings, he started to use venom extract as 5 drops/3 times a day at home. After the first dose, he felt sick and his blood pressure dropped for 1 hour, whereas subsequent doses were well tolerated. On the fourth day, serum total protein level was 50.7 g/L, albumin 26.4 g/L, and NT-proBNP was 1777 pg/mL

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with normal liver and renal functions. He was feeling stable, and there was no peripheral edema and no rales or rhonchi on auscultation of the chest. On the sixth day of treatment, 2 hours after the morning dose of venom extract, a sudden death occurred.

DISCUSSION

Scorpion venom has been considered as a natural source for cancer therapy.⁴ *Rhopalurus junceus* is an endemic scorpion species from Cuba; although it belongs to the most dangerous species related to human scorpionism there have been no fatal stings reported. Recently, the *R. junceus* venom has become a very popular treatment in traditional medicine in Cuba for pain, inflammatory diseases, and cancer.⁵ It is sold by prescription in several Latin American countries and China, and the consumption in European countries and Turkey is increasing. Currently published articles investigate the composition and in vitro anticancer activity of the venom; there are no controlled clinical trials evaluating toxicity or effectiveness.⁵⁻⁸ Giovannini et al.⁶ reported that Vidatox 30 CH (venom extracted from the *R. junceus* scorpion) increased hepatocellular carcinoma cell proliferation and invasion in rats. Manufacturer states that it acts via ion channels that are important in cellular signaling.

Patient's serum total protein and albumin levels decreased in a short period of time after initiation of venom therapy. However, there was no change in his physical or mental status. The autopsy could not be performed because of lack of consent, but exitus was probably due to cardiac reasons. It is impossible to know, but we think that he would survive longer if he did not receive venom extract. Uncontrolled use of alternative or complementary treatment options may lead to unexpected interactions with concomitant medications

Main Points

- Alternative treatment options are widely used among cancer patients. However, for most of them there are no clinical trials evaluating safety and efficacy.
- Cuban blue scorpion venom has been widely used to treat cancer. This report is the first that evaluates Cuban blue scorpion extract use and fatal outcome in a patient with lung cancer.
- Uncontrolled use of alternative or complementary treatment options may lead to unexpected interactions with concomitant medications or unexpected adverse effects, which may be the case for our patient.

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Informed Consent: The presented patient died of the disease, so no consent could be obtained.

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