Fatal envenomation by Chironex fleckeri, the north Australian box jellyfish: the continuing search for lethal mechanisms.

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A child with severe envenomation by Chironex fleckeri presented in cardiac arrest at a hospital between 15 and 20 min after the sting was sustained. Resuscitation was not successful. Objective confirmation of C. fleckeri as the cause of death is described. Four metres of tentacle contact in this case represents the smallest-measured fatal C. fleckeri sting that has been recorded so far.

The mechanism of this death was toxic and not allergic. The available clinical information suggests direct myocardial interference, but does not exclude a respiratory hypoxic element.

A more widespread venom-induced functional disruption of the cell membrane is postulated, with a resultant dysfunction in several vital organ systems that were acting in concert.

Early, vigorous and sustained resuscitation that is performed as a first-aid measure offers the best hope of prehospital survival after a massive C. fleckeri sting, which is the most explosive envenomation process that is presently known to humans. In-hospital resuscitation from unresponsive circulatory arrest should now involve intravenously-administered verapamil (or its equivalent) and additional box-jellyfish antivenom, while the patient is being monitored.

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