Lesson of the Week

Anaphylactic reaction to desensitisation for allergic rhinitis and asthma

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Desensitisation is still recommended for patients with allergic rhinitis and asthma, despite the risk of unpredictable anaphylactic reactions. I report the death of a patient from this complication of treatment.

Case report

A 19-year-old girl had been my patient all her life and had had mild asthma since the age of 6. The condition was clearly predominantly allergic, and she also suffered from allergic rhinitis. She was somewhat unreliable in taking her medication, and had shown no response to sodium cromoglycate, probably because she did not continue taking the capsules. In October 1975 I referred her to a chest physician for his opinion on the advisability of skin tests with a view to giving her desensitising injections. At that time he thought that desensitisation was unlikely to be helpful and recommended treatment with beclomethasone while doing some skin tests. These showed "marked sensitivity to house dust and *Dermatophagoides pteronyssinus* and there was also a marked reaction to grass pollen." She was found to have a high eosinophil count ($0.47 \times 10^9/l$; $470/mm^3$).

In January 1979 the chest physician recommended a course of desensitising injections against grass pollens and house-dust mites, primarily in order to help the allergic rhinitis. The course was started on 9 March, and she was given the initial six incremental doses of Migen (house-dust mite extract) on 9, 16, and 23 March and 6, 18, and 27 April without any reaction. On 4, 11, and 18 May she had the three doses of Pollinex (pollen extract); and the monthly maintenance dose, 400 Noon units, of Migen was given on 25 May, 6 July, 3 August, 6 September, 8 October, and 12 November. There was no reaction to any of these until the last injection, and after every injection she was advised to stay in the waiting room before going home.

On 12 November the injection was given in the usual way, subcutaneously into the left upper arm, and after returning the remaining dose to the refrigerator we discussed what benefits she had obtained from the course and for how long it should be continued. I had written a prescription for further maintenance doses because I thought it advisable to continue at least throughout the autumn and probably until the next March. While we were talking, about five minutes after the injection, she complained of a flush and rapid pulse, both of which I confirmed, and while discussing whether to give her an injection of antihistamine she began to wheeze slightly. I advised her to take a puff of her salbutamol inhaler while I went to the drug cupboard

Desensitisation for allergic disorders carries a risk of unpredictable sudden death.

to fetch an ampoule of adrenaline. On my return to the consulting room, and after drawing up the adrenaline into a syringe, her asthma was more evident, and I suggested that she take a second inhalation of salbutamol, which she did. I then injected approximately 0.75 ml of 1/1000 adrenaline subcutaneously close to the injection site. But within half a minute she was cyanosed and losing consciousness in very severe bronchospasm.

With the help of my receptionist I lifted her onto the examination couch and applied mouth-to-mouth artificial respiration while waiting for the ambulance. This was largely ineffective because of the fully inflated state of her lungs due to the severe bronchospasm. Ten minutes after starting artificial respiration her heart stopped, and I began external cardiac massage. Both this and the attempts at artificial respiration with oxygen were to no avail. At necropsy the only abnormal findings were some pulmonary and laryngeal oedema, these findings being "not inconsistent with anaphylactic shock."

Comment

I had found desensitisation of some practical use in treating patients with allergic rhinitis and had always assumed that anaphylactic reactions were rare and could, in any event, be treated successfully in the consulting room. My experience shows that this confidence may be misplaced. Injections which carry the risk of anaphylaxis or severe bronchospasm should not be given without the availability of oxygen and a skilled assistant.

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A patient of mine is shortly marrying an Australian serviceman, who was apparently exposed to the defoliant sprays when serving in Vietnam. She is naturally concerned at the possibility of any children suffering from congenital abnormalities. What are the risks in percentage terms?

Despite alarming statements in the lay press, there is no convincing evidence that the defoliant sprays used in Vietnam increase the risk to the children of servicemen who might have been exposed to such sprays.