

References

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Anaphylactic bronchospasm due to propofol

A 43-year-old man was admitted for minor day surgery and appeared to develop anaphylactic bronchospasm on exposure to propofol. He had no history of previous allergic reaction or asthma. His past history included well-controlled arterial hypertension. He smoked 20 to 40 cigarettes and consumed two glasses of alcohol a day. He had undergone previous surgery under general anaesthesia without any problem. His physical examination findings were unremarkable, except for slight weight excess (88 kg for 176 cm, body mass index 28). Routine laboratory tests showed no abnormality. After establishing routine monitoring and intravenous access, a crystalloid infusion was started. Prior to induction, his blood pressure was 150/90 mmHg, heart rate 70 bpm and SpO₂ 98%.

General anaesthesia was induced with sufentanil 20 µg, lignocaine 80 mg and propofol titrated up to 200 mg. After a test dose, atracurium (total 30 mg) was given and manual ventilation performed without difficulty for three minutes. However, after tracheal intubation, auscultation of the chest demonstrated bilateral wheezing and high ventilatory pressures were required. Bronchospasm was diagnosed and anaphylaxis to atracurium was suspected. Epinephrine 0.1 mg was administered subcutaneously. Anaesthesia was maintained with desflurane in oxygen and his SpO₂ remained above 97%. Propofol was added, 50 mg twice, and nebulised fenoterol bromhydrate 1.25 mg plus ipratropium bromide 0.5 mg was given.

The surgery, which involved minor laser treatment, was performed without problem. At the end of surgery, the wheezing was resolved and the patient could be extubated. At no time was there hypotension or skin

rash. His stay in the recovery room was uneventful and the patient was discharged the same day. However, in rare cases anaphylaxis can manifest as bronchospasm only. Therefore, 12 weeks later he was referred for allergy testing. The prick test was negative for latex (Stallergenes and Allerbio extracts), for Tracrium® (atracurium) 0.1 mg/ml, Sufenta® (sufentanil) and Diprivan® (propofol). The intradermal tests were negative for Xylocaine® 2% (lignocaine) at dilution 0.02 to 2 mg/ml, for Sufenta® 0.5 µg/ml, for Tracrium® 0.1 mg/ml, but positive for Diprivan® at dilution 0.1 mg/ml (8×7 mm) and 1 mg/ml (10×8 mm). Three months later the same type of surgery was performed under general anaesthesia induced with thiopentone without any problem.

Anaphylaxis due to propofol (2,6-diisopropylphenol) is rare. It seems likely that the diisopropyl radical is the responsible allergenic component¹. The multiplicity of drugs administered during induction of anaesthesia makes the diagnosis difficult in fatal cases. Moreover, many are not well-documented; skin testing is not always reported and IgE-mediated reaction are not always well-established. A positive test has a high predictive value in the setting of such history. It is particularly so with the 1/100 dilution¹. Mertes and Laxenaire reported in 1990 at least 72 cases of anaphylaxis due to propofol^{2,3}. In their recent survey, anaphylaxis due to hypnotics was exceedingly rare (0.8% due to hypnotics, 0.4% due to propofol). Due to lack of large systematic surveys, it is possible that such reactions are underdiagnosed and under-reported⁴. However, alertness is essential, because anaphylactic reactions can be restricted to a single clinical symptom and can be misdiagnosed in the presence of other pathological conditions⁴.

It is the anaesthetist's responsibility to investigate such reactions and it is crucial to identify such patients to prevent a subsequent exposure, which could prove fatal.

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