

INTRAOPERATIVE ANAPHYLAXIS: VERBA VOLANT, SCRIPTA MANENT!

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SUMMARY: We describe a case of intraoperative gelatine-induced anaphylaxis whose diagnosis was delayed as the use of gelatine during surgical procedures was omitted for two times in patient's medical records. The subject is a 66-year old woman, with a negative medical history of atopy, food and drug allergy, with arterial hypertension on a course of beta-blockers and with bladder carcinoma requiring surgery. The patient had tolerated both general and local anaesthesia on several previous occasions. On the first occasion she experienced arterial fibrillation secondary to a severe episode of hypotension following local anaesthesia, while on a course of beta-blockers. On the second occasion she developed a very severe episode of hypotension followed by the outbreak of a generalised rash during general anaesthesia. The tryptase sera level was 109 mg/L one hour after the reaction had subsided, while the basal values were normal. On the third occasion the patient redeveloped severe hypotension and a generalised rash during general anaesthesia. The allergological work-up was negative, except for intradermal test with gelatine. A study of the intra-cellular cytokines in blood lymphocytes showed a production of IL4 from CD4+ lymphocytes after stimulation by gelatine. The patient underwent a successive surgical procedure without any adverse event.

Key-words: Gelatine allergy - Incomplete medical records - Intraoperative anaphylaxis - Tryptase dosage.

Drug allergy to gelatine (a plasma expander) is a rare condition (incidence 0.06-0.8%) (1-4). Known risk factors are male gender, drug allergy and gelatine-containing food allergy. We describe a case of intraoperative gelatine-induced anaphylaxis where the abovementioned risk factors were absent and whose diagnosis was delayed as the use of gelatine during surgical procedures was omitted for two times in patient's medical records. The subject is a 66-year old woman, with a negative medical history of atopy, food and drug allergy, with arterial hypertension on a course of beta-blockers and with bladder carcinoma requiring surgery. The patient had tolerated both general and local anaesthesia on several occasions. On 2nd April 2003 she experienced arterial fibrillation secondary to a severe episode of hypotension following local anaesthesia with ropivacaine, while on a course of beta-blockers. After the event no consultation with an allergist was requested. On 28th April 2003 the patient was administered general anaesthesia (ampicillin, fentanyl, cis-atracurium and

propofol were used) and developed a very severe episode of hypotension followed by the outbreak of a generalised rash. The tryptase sera level was 109 µg/L one hour after the reaction had subsided. The patient's basal values which were checked approximately 15 days later presented perfectly normal levels. A dermatological examination ruled out urticaria pigmentosa, nor did the patient present the characteristic signs or symptoms consistent with systemic mastocytosis. After the second reaction the following allergological work-up, which yielded negative results, was performed: prick test with latex (Stallergenes, Lofarma and Alk-Abello), RAST to latex and ethylene oxide, prick and intradermal test to major (PPL) and minor (MDM) penicillin antigen determinants, amoxicillin, ampicillin, ropivacaine, mepivacaine, lidocaine, marcaine, atropine, atracurium, cisatracurium, pancuronium, vecuronium, propofol, thiopentale, fentanyl, prick test with Betadine,. A diagnosis of an intraoperative anaphylatoid reaction during general anaesthesia, aggravated by the concomitant use of betablockers, was reached. On 3rd October 2003 the patient was once again administered general anaesthesia combining fentanyl, midazolam, rocurium and received the pre-medication recommended for the prevention of contrast media reactions. Despite these findings and a betablocker sub-

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stitute, the patient redeveloped severe hypotension and a generalised rash. According to the surgeon the reaction started when Betadine was introduced into the vagina. Prick and intradermal test to ropivacaine, propofol, midazolam, fentanyl, cis-atracurium, rocuronium, pancuronium, vecuronium, suxamethonium, povidon, Betadine®, chlorhexidine and carboxymethyl cellulose (used in some bladder catheter lubricants) were negative. Prick-tests to formol, to ethylene oxide, sterilised vinyl gloves were negative. The QAS-RIA (Nancy, France) to the quaternary ammonium ions was negative. Though the application of Haemaccel during surgery was omitted from the patient's medical records, prick and intradermal testing was nevertheless carried out in the end, with positive results. Probably on account of the low level of total IgE (10 KUI/l), the RAST was negative to gelatine. A study of the intra-cellular cytokines in blood lymphocytes showed a production of IL4 from CD4+ lymphocytes after stimulation by gelatine (Nancy, France). A conclusive diagnosis of IgE-mediated anaphylaxis to gelatine was made. The patient underwent a successive surgical procedure without any adverse event. In conclusion, the first episode of hypotension could be attributed to an adverse pharmacological reaction, perhaps facilitated by an

arrhythmia-prone myocardium or enhanced by beta-blockers. It is probable that, in the case of the second and third episodes, the anaesthetist may have resorted to the use of gelatine following the onset of pharmacologically-induced hypotension (without duly compiling the medical records) which, as a result, triggered a very severe IgE-mediated anaphylactic reaction. Lastly, the importance of the key role that tryptase levels can play in diagnosing intraoperative anaphylaxis should be emphasised. As equally important, the anaesthetist should accurately list all the substances that are of potential use during general anaesthesia.

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