

## CASE REPORT

# A perioperative anaphylactic reaction caused by latex in a patient with no history of allergy

Cevdet Duger, MD\*, Iclal Ozdemir Kol, MD\*\*, Kenan Kaygusuz, MD\*\*, Sinan Gursoy, MD\*\*, Idris Ersan, MD\*\*\*, Caner Mimaroglu, MD\*\*\*\*

*\*Assistant Professor, \*\*Associate Professor, \*\*\*Assistant Doctor, \*\*\*\*Professor*

*Department of Anesthesiology and Reanimation, Cumhuriyet University, Faculty of Medicine, 58140 Sivas, (Turkey)*

**Correspondence:** Dr. Cevdet Duger, Department of Anesthesiology and Reanimation, Cumhuriyet University, School of Medicine, 58140 Sivas, (Turkey); Tel: 0090346 2580125; Fax: 0090346 2581305; e-mail:cevdetduger@gmail.com

## ABSTRACT

Latex is one of the most common causes of intraoperative anaphylactic reactions. Latex anaphylaxis may lead to significant morbidity and even may sometimes be fatal. During a surgical operation of a 19 year old male, for removal of a seminal vesicular cyst under general anesthesia, sudden appearance of classic signs of an anaphylactic reaction, e.g. skin eruptions, hypoxemia, hypotension, flushing, edema and bronchospasm alerted us. Antihistaminics, steroids and adrenaline were administered. It was assumed that the most possible cause of this anaphylactic reaction could have been latex. Therefore, all latex gloves in use were changed to latex free ones. The boy recovered and after 24 hours of observation in intensive care unit (ICU), he was shifted to urology clinic.

**Key words:** Anaphylactic reaction; Latex

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## INTRODUCTION

Anaphylaxis is a severe, life-threatening, hypersensitivity reaction.<sup>1</sup> During the recent years anaphylactic reactions during anesthesia have become a common problem and are known to have caused deaths in approximately 2% of the effected cases.<sup>1,2</sup> Latex is one of the most common causes of intraoperative anaphylactic reactions.<sup>3</sup> Anesthesiologists, like many other physicians who often use latex gloves, may also become sensitized to latex<sup>4</sup>, and cases of disability of health care professionals because of latex allergy have been reported.<sup>5</sup> Patients with latex allergy can be a challenge for the anesthesiologists and the surgeons during perioperative period.<sup>6</sup> We report a case of anaphylactic reaction caused by latex in a patient, who had no previous history of any allergy.

## CASE REPORT

A 19 years old, 65 kg male was admitted for excision of a seminal vesicular cyst. The patient gave no history of any known allergy during preoperative anesthetic evaluation and his preoperative physical examination was unremarkable. On the day of surgery, he was shifted to the operating room, and standard monitoring, e.g. electrocardiography, noninvasive blood pressure monitor, pulse oximetry (SpO<sub>2</sub>), and end-tidal capnography applied. Intravenous lines were secured. General anesthesia was induced with fentanyl 0.05 µg/kg, rocuronium 0.5 mg/kg, thiopentone sodium 0.7 mg/kg and maintained with 4% desflurane in O<sub>2</sub> and N<sub>2</sub>O. The patient was hemodynamically stable at the start of the operation, with blood pressure of 120/70 mmHg and heart rate at 85 breaths/min. After five minutes from induction, sudden appearance

of skin eruptions were noted. Inj. dexamethasone 8 mg and chlorphenoxamine 10 mg were administered intravenously. The cause of that allergic reaction was unclear at the time. The eruptions gradually diminished and then cleared. After a few minutes of the initiation of surgical procedure, skin eruptions recurred. The vital signs of the patient remained stable until SpO<sub>2</sub> dropped to 92%. He was ventilated with 100% O<sub>2</sub> and desflurane was switched off. The blood pressure at that point was 70/40 mmHg. On auscultation of the chest rhonchi were heard all over. The skin eruptions involved whole of the body and periorbital angioedema were seen. It was assumed that the most possible cause of the anaphylactic reaction could be latex. Instantly, all latex gloves in use were changed with latex free ones. Inj. dexamethasone 8 mg was repeated and methylprednisolone 1 mg/kg IV was given. Inj. adrenaline 0.1 mg and inj. aminophyllin 5 mg/kg were injected through IV route. Blood gas analysis revealed respiratory acidosis at that time. After 10 minutes, all signs returned to normal. After a report of normal arterial blood gas values and resumption of adequate spontaneous ventilator effort, the patient was extubated. He was transferred to ICU for observation for 24 hours. The family of the patient was interviewed again after the operation and they indicated that the patient had had periorbital edema and some eruptions when he to blow rubber balloons during his childhood. All vital signs of patient remained normal during the postoperative period and he was then transferred to urology clinic.

## DISCUSSION

There are various causes of anaphylaxis in relation to anesthesia and surgery; neuromuscular blocking agents, latex and antibiotics being the most common causes in that order.<sup>7</sup> There is a variety of goods used in our routine life e.g. gloves, balloons and condoms, as well as many medical products, which are made of latex and may be a source of allergic and anaphylactic reactions. There has been an increased incidence of allergic reactions to latex during surgery,<sup>8,9</sup> where the most common source is surgical gloves made of latex.

Latex anaphylaxis is a type-I hypersensitivity reaction, an allergic reaction usually provoked by re-exposure of the person previously sensitized to an antigen like latex.<sup>10</sup> Skin reactions such as erythema or rash, upper airway symptoms, angioedema, and gastrointestinal symptoms may appear. In severe cases, anaphylactic reaction during an operation may be manifested by several signs like bronchospasm, hypotension and

tachycardia.<sup>11-13</sup> The present report describes a typical anaphylactic reaction as manifested by skin eruptions, hypoxemia, hypotension, and periorbital edema.

Preoperative examination of a patient must involve an enquiry about any history of latex allergy. In this case the patient gave no history of allergy, but postoperatively, his family confessed about an allergy episode. Awareness of latex allergy is essential to avoid an unnecessary increase in the morbidity and mortality of a growing population of patients. It is also essential that anesthesia practitioner, as well as other health care workers, use latex-free gloves or non-powdered gloves with small latex protein count to prevent the sensitization of patients and health care workers. Although sensitization does not always lead to latex allergy, more frequent and prolonged exposure to latex is likely to increase the number of cases of latex allergy and anaphylaxis. Currently, avoidance of latex containing surgical products and a latex-free environment are mandatory in the care of sensitized patients.

## CONCLUSION

In conclusion, anesthesiologists shouldn't forget the possibility of any kind of allergy or anaphylaxis during anesthesia, even if there is no history of allergy and take precautions against a probable anaphylactic reaction.

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## QUOTATIONS

### Write as You Have to Write

The amount of writings of a profession is a measure of its vitality and activity, whilst their quality is a rough indication of its intellectual state. Medical literature . . . is the currency or medium of exchange by which a man contributes to or borrows from the common stock of knowledge and experience, and the volume of this currency and the character of its metal are of the greatest importance to us all. (Sir Robert Hutchison)

*Lancet*, 1939; 2: 1059.

(Contributed by Dr. Zulfiqar Ahmed, USA)

### Science, Discovery and Beauty

We must not forget that when radium was discovered no one knew that it would prove useful in hospitals. The work was one of pure science. And this is a proof that scientific work must not be considered from the point of view of the direct usefulness of it. It must be done for itself, for the beauty of science, and then there is always the chance that a scientific discovery may become like the radium a benefit for humanity.

Marie Curie (1867 - 1934), Lecture at Vassar College, May 14, 1921

I am among those who think that science has great beauty. A scientist in his laboratory is not only a technician: he is also a child placed before natural phenomena which impress him like a fairy tale.

Marie Curie French (Polish-born) chemist & physicist (1867 - 1934)

### Work & Credit

*There are two kinds of people, those who do the work, and those who take the credit.*

*Try to be in the first group: there is less competition there.*

*Indira Gandhi*