

Hypersensitivity to Cidex OPA: a misdiagnosed condition



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Clinical Implications

- Cidex OPA can cause allergic reactions in patients undergoing repeated endoscopies. As demonstrated in a recent letter, this etiology may not always be considered.

TO THE EDITOR:

Cidex OPA (ortho-phthalaldehyde solution [0.55%]) is used to disinfect heat-sensitive medical equipment.

In the technical leaflet, it is recommended that the product not be used in patients requiring repeated cystoscopy, because its use has been associated with hypersensitivity reactions. Nonetheless, Cidex OPA continues to be used for the disinfection of endoscopic equipment in many centers.

Here, we describe 4 cases of patients undergoing surveillance fibrolaryngoscopy (FLG) after surgery for neoplasias who experienced hypersensitivity reactions. In all cases, Cidex OPA had been used to disinfect the fibrolaryngoscopes.

PATIENT 1

Patient 1 was a 77-year-old man treated surgically for a neoplasia of the oropharynx. Postoperatively, he was undergoing FLG every 4 months for 5 years. After the last two, he immediately developed rhinorrhea and hoarseness. This reaction was considered to have been secondary to contact with traces of Cidex OPA on the fibrolaryngoscope; hence, for the subsequent procedures, the endoscope was protected with a silicone sheath. However, 20 minutes after the next FLG, while the patient was in the hospital cafeteria, he experienced a grade III anaphylaxis¹ (urticaria, bronchospasm, and decreased level of consciousness).

PATIENT 2

Patient 2 was a 62-year-old man treated surgically for a vocal cord neoplasia, who, half an hour after his sixth surveillance FLG, developed urticaria and facial angioedema. Since then, as with the previous patient, the fibrolaryngoscope was protected with a silicone sheath. No further reactions were developed.

PATIENT 3

Patient 3 was a 63-year-old man who, after his fifth and sixth surveillance FLGs following surgery for a neoplasia of the vocal cords, developed erythema and facial angioedema 30 minutes after the procedure. Subsequent FLGs were carried out using a protective sheath and did not produce reactions.

PATIENT 4

Patient 4 was a 68-year-old man who developed facial and cervical urticaria 30 minutes after a FLG procedure. It was his eighth surveillance FLG after surgery for a neoplasia of the

larynx. The patient has not experienced any further reactions after subsequent checkups in which the laryngoscope was protected with a silicone sheath.

The patients had not been given any drugs before, during, or after the FLG; hence, Cidex OPA was suspected to be the cause of the reactions and the patients were referred to the Allergology Unit for assessment.

A detailed clinical history was taken from each patient, and after explaining the procedure and gaining informed consent, a diagnostic study was carried out in the form of cutaneous testing and the quantification of specific IgE. Skin prick tests were carried out to foods, latex, and Cidex OPA (0.55%) in all of the patients and a control group (5 nonatopic individuals). The specific IgE to Cidex OPA was determined in duplicate using the ELISA technique on the serum of each patient and on a “pool” of serums from the control group. Specific IgE to Cidex OPA was considered positive when the mean of the optical density (OD) was equal to or twice greater than the OD from the control serum “pool.”

The skin prick tests to foods and latex were negative in all patients.

The results of the prick test to Cidex OPA and the specific IgE are shown in Table I.

We present the case studies of 4 patients who demonstrated immediate hypersensitivity reactions to Cidex OPA, as demonstrated by the results of the diagnostic investigations. In 1 patient, this reaction manifested itself as anaphylaxis, and in the other 3, as subcutaneous and/or cutaneous reactions. It should be noted that, in all cases, the reactions occurred within an hour of completion of the FLG and after several endoscopic checkups, which shows that a prolonged sensitization period is necessary.

The first cases of anaphylaxis due to Cidex OPA were reported by Sokol in 2004.² The patients in question had urinary bladder or prostate cancers and had undergone repeated cystoscopy procedures in which the trigger for the anaphylactic reaction had been Cidex OPA, used to disinfect the endoscope. Subsequently, further cases of immediate hypersensitivity reactions after various endoscopic examinations (cystoscopies, colonoscopies, and laryngoscopies) were published, in which Cidex OPA had been used as a disinfectant.³⁻⁶ In all of these cases, hypersensitivity to Cidex OPA was demonstrated via cutaneous tests and *in vitro* tests. Skin prick testing was carried out in most cases, although there were some discrepancies in terms of the dilutions used (between 1/10 and 1/10,000 of the concentration used for disinfection). Epicutaneous tests and the basophil activation test have also shown their utility in some studies.⁶

In our study, all of the patients had positive skin prick tests at the concentration used for disinfection (1/1), which was not irritant in the control group. The specific IgE level was considered positive in 3 of the 4 patients.

In the Cidex OPA technical leaflet, it is recommended that the disinfectant be avoided in patients requiring repeated cystoscopy. Because these reactions are also seen after other endoscopic procedures, there is a need to modify the leaflet and broaden this warning to all endoscopic procedures in which Cidex OPA is used.

In all of the cases, the sensitization to Cidex OPA was probably due to traces of the disinfectant on the fibrolaryngoscope; hence, efforts should be made to properly rinse the scope with a

TABLE I. Prick test and specific IgE to Cidex OPA

	Patient 1	Patient 2	Patient 3	Patient 4	Control group
Prick test (1/1)	5 × 6/10 × 11	8 × 7/12 × 10	6 × 8/14 × 16	10 × 8/15 × 20	Negative
Wheal/flare (mm)					
Specific IgE (OD)	0.18	0.08	0.354	0.837	0.07

OD, Optical density.

view to eliminate these traces and avoid possible sensitization. Similarly, the protective sheaths for the fibrolaryngoscopes should not be used to prevent further reactions because they can offer a false sense of security and are not effective in all cases, as demonstrated by one of our patients.

To avoid these reactions, at our center, we stopped using Cidex OPA and substituted it with peracetic acid. Since then, no hypersensitivity reactions have been described with this agent, although it is described as an irritant of the airways.⁷

In patients developing hypersensitivity reactions after endoscopic procedures, in addition to considering any drugs administered before or during the procedure, the disinfectant used for the endoscopic equipment should be considered, given that both Cidex OPA and, in other cases, chlorhexidine have demonstrated their sensitizing potential.^{8,9}

To conclude, should Cidex OPA be used to disinfect endoscopic equipment, the possibility of sensitization to same should be kept in mind, principally in patients requiring repeated endoscopic examination (not just cystoscopy), and any reactions developed should be observed. In the event of a hypersensitivity reaction, a different disinfectant should be used.

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