

ALLERGIC CONTACT STOMATITIS FROM BISPHENOL-A-GLYCIDYLDIMETHACRYLATE DURING APPLICATION OF COMPOSITE RESTORATIONS. A CASE REPORT.

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SUMMARY:

Bisphenol-A-glycidyl dimethacrylate (BIS-GMA) is a frequently used monomer in dental composite resins.

We report one case of allergic contact stomatitis from BIS-GMA, which has been rarely reported in dental patients.

Key words: allergy, bisphenol-A-glycidyl dimethacrylate, dental resins

Bisphenol-A-glycidyl dimethacrylate (BIS-GMA) is found in a variety of dental bonding systems. It is produced by the reaction of methyl methacrylate and diglycidylether of bisphenol A (epoxy resin).

In spite of the widespread use of BIS-GMA, intraoral reactions are not common. In a study of Goon et al. (3) only 2 of 1322 dental patients showed positive patch test reactions to BIS-GMA.

CLINICAL REPORT:

A 51-year-old woman was referred to the sector of Oral Diagnostic with a history of having developed a strong swelling of the lips and gingivae with marked inflammation of the perioral skin 24 h after having 3 composite restorations fitted. These complaints persist in the second visit at the dental personnel when other 4 composite restorations were fitted. The composite restoration material was Herculite. She reported us for whitish scaling on the buccal mucosa after the second application of the restorations. She complained of burning in the mouth.

She had no history of allergy. There was no personal or familial history of atopy.

Clinical examination revealed mild erythema in the gingiva and the buccal mucosa in close relationship with the restorations. We marked a swelling of the lips and buccal mucosa (Fig.1.), associated with angular cheilitis (Fig. 2.). Papules next the composite restorations were visible (Fig. 3.).



Fig. 1. Swelling of the buccal mucosa



Fig. 2. Angular cheilitis appeared after insertion of composite restorations.



Fig. 3. Papules next the composite restorations



Fig. 4. Positive patch test to BIS-GMA

DIAGNOSTIC:

Patch testing was performed with the Dental Screening series (Sweden, Malmo). Patches were applied to the upper back and occluded for 2 days using the occlusive Finn Chamber (Malmo, Finland) and read on day 3. She had positive reaction (+ +) to BIS-GMA 2% pet. (Fig.4).

DISCUSSION

BIS-GMA is a frequent used monomer in dental composite resins. It is a product of methyl methacrylate and diglycidylether of bisphenol A (epoxy resin) (1). BIS-GMA sensitivity is a rare cause of allergic contact stomatitis in dental patients, because they are briefly exposed to the resin before it is polymerized and becomes non-allergenic (2). Also the intraoral polymerization is not 100% and the unpolymerized residual monomer may leach out to the surrounding oral mucosa (5).

Acrylic materials are found in dental products. Occupational allergic contact dermatitis due to acrylates in dental personnel is frequently reported. Sensitization in patients is rare. BIS-GMA is the most commonly used monomer in dental composite resins. BIS-GMA sensitivity is a rare cause of allergic contact stomatitis in dental patients (4).

The present case demonstrates severe contact allergy to acrylates in dental materials. Our patient had a history of exposure to composite restoration before 2 years. Two composite restorations were made in the incisives superior. She not reacts adversely when the first restorations were applied. We suggest that the first fitting of the composite restorations was the sensitizing factor.

This case highlights the importance for the clinicians to think about allergy even using modern restorative materials and document which bonding agent they use.

We recommended dental adhesives without BIS-GMA and the replacement of composite restorations of Herculite with Dyrect and amalgam filling for posterior teeth.

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