

Short Communication

Erythema-multiforme-like occupational contact dermatitis due to bisphenol A

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Thermal recording paper has become frequently used in the image communication field, such as facsimile. It uses the reaction between a colorless dye and an acid phenol derivative. When thermal recording paper is produced, bisphenol A (BPA) is used as a developer for the dye. BPA is also often used to improve the sensitivity of the sensitizer.

Case Report

A 33-year-old man had carried out research on the development of facsimile paper production for 10 years. After 2 years work, he had developed hand dermatitis, and eruptions gradually began to extend to the whole body, with wheezing developing about 2 years ago. At initial consultation, his entire body was covered with erythematous papules and plaques, some with a target-like appearance, suggesting erythema multiforme. Patch, prick, and scratch tests with various chemicals, including the Japanese standard series, were performed. The only positive reaction was to BPA on patch testing (Table 1).

Discussion

It is well-known that BPA has sensitizing activity, and causes respiratory symptoms (1–4). However, erythema multiforme caused by BPA is rare. In this case, it seems that the patient may have been sensitized because he was

developing BPA samples for thermal recording paper. Therefore, following diagnosis, he did not use BPA and immediately made photocopies when faxes arrived, throwing the fax paper away. As a result, no marked symptoms developed. It may be that BPA inhalation induced an erythema-multiforme-like eruption, accompanied by wheezing, in addition to hand dermatitis.

The use of BPA was discontinued in Japan because it is an endocrine disrupter. In recent years, bisphenol F type epoxy resin has become widely used. However, because cross-reactions between BPA and bisphenol F have been reported (5), it remains necessary to be careful in the use of epoxy resin.

References

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Table 1. Patch test results

	%vehicle	2D closed patch test		20 min scratch-patch test
		D2	D3	
bisphenol A (BPA)	1% pet.	++	++	—
butylhydroxytoluol (BHT)	2% pet.	—	—	—
butylhydroxyanisol (BHA)	2% pet.	—	—	—