

# Allergic contact dermatitis caused by Finn Chambers AQUA in two patients

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Adhesives are widely used in medical material, and may cause allergic contact dermatitis (ACD). It is important to know the full composition of medical material to avoid iatrogenic ACD in sensitized patients. Over time, colophonium and rubber components have been replaced by other adhesives to avoid ACD.<sup>1</sup>

## CASE REPORTS

We report on a 15-year-old child with a history of ACD caused by colophonium contained in adhesive bandage, and an 83-year-old woman with a history of ACD caused by colophonium contained in a hydrocolloid dressing. Both patients were patch tested with Finn Chambers AQUA (FCA). Both patients showed erythema and oedema under every chamber on day (D) 2 and D4 (Figures 1 and 2A). Later, components of FCA, plastics and the glue series (Martitor, Barcelona, Spain) were patch tested by the use of Curatest (Lohmann & Rauscher, Neuwied, Germany). We observed positive reactions to colophonium, abietic acid and the 3M transfer adhesive of FCA (used to fix the filter papers to the aluminium chambers) in both patients on D2 and D4 (Figure 2B). Patch testing with Finn Chambers was performed, and no reaction was

observed. Information on the adhesives used in FCA was requested from the manufacturer, and the adhesive used to fix the filter papers to the aluminium chambers did indeed contain modified colophonium.

## DISCUSSION

Colophonium is a complex mixture of >100 different compounds, and its main component is abietic acid.<sup>2,3</sup> Adhesive manufacturers can modify colophonium with different processes, depending on the desired quality of the final product.<sup>4</sup> Unmodified colophonium is a well-known sensitizer, and it can also be used in the manufacture of medical adhesives.<sup>2,5</sup> Hydrogenated modified colophonium seems to be a less strong sensitizer; however, once oxidized, it becomes a strong sensitizer.<sup>4</sup> Unmodified colophonium 20% pet. is present in most baseline series. However, it may be difficult to diagnose ACD caused by modified colophonium, because not all possible sensitizers are included in the baseline series.<sup>6</sup>

We present two cases of ACD caused by Finn Chambers AQUA. Recently, two cases of contact allergic reactions to FCA have already been described. The authors analysed extracts of the FCA by using gas chromatography-mass spectrometry, and colophonium-related substances were identified.<sup>7</sup> After the cases had been reported to the manufacturer, the adhesive used in the FCA was replaced. Our patients and one of the cases published by Hamnerius et al<sup>7</sup> have been retested with this new FCA, and no reactions were observed.

In conclusion, physicians and consumers need to know the exact composition of materials used in medical devices to avoid applying sensitizers.<sup>2</sup> Furthermore, communication between physicians and manufacturers is essential to improve the quality and security of the medical devices.

## ACKNOWLEDGEMENTS

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

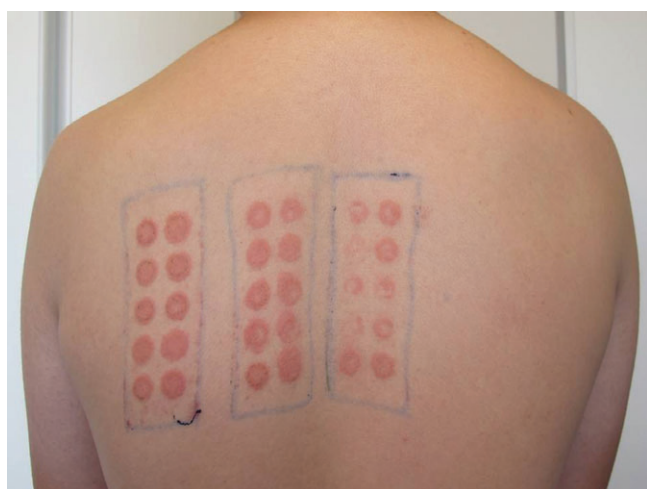


**FIGURE 1** Positive patch test reactions at every site under tape holding the test chambers in the first patient

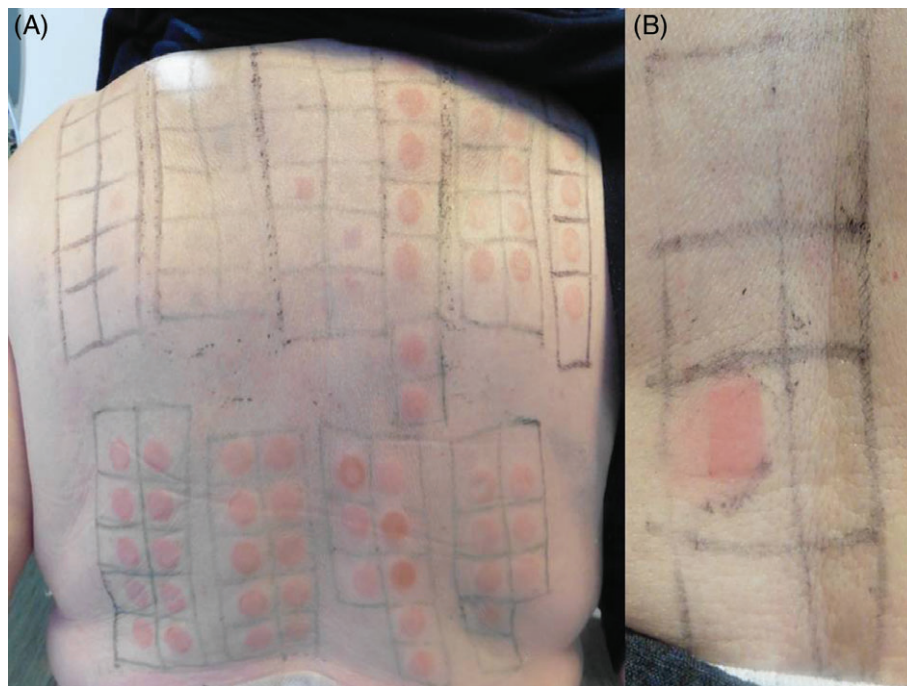


**FIGURE 2** (A), Positive patch test reactions at every site under tape holding the test chambers in the second patient. (B), Positive patch test reaction to 3M transfer adhesive of Finn Chambers AQUA on day 4

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