

## Correspondence

### Chronic contact eczema on the hand related to PlayStation® controller use

Editor,

Intensive video gaming has been associated with the occurrence of various cutaneous conditions arising from repeated trauma to the skin caused by continuous use of video game controllers.<sup>1–3</sup> However, contact dermatitis caused by the use of video game controllers has been seldom reported.<sup>4</sup>

While on maternity leave in 2001, a 34-year-old female employee of the video game industry presented with chronic hand eczema that had evolved over the previous 2.5 years. Her past medical history was notable for asthma, rhinoconjunctivitis, angioedema, and contact nickel allergy but not atopic dermatitis. She displayed typical contact dermatitis resistant to corticosteroid ointments on the palmar side of the third, fourth, and fifth fingers of the left hand and the third finger of the right hand (Fig. 1). The rest of the skin was free of lesions. No relevant cause of chronic hand eczema (such as cosmetics, gloves, dyes, objects), particularly of a nickel-related response, was found. Patch testing (PT) with the European Standard Battery, using the cosmetics, hair-dressing, corticosteroid, and rubber additives batteries, disclosed positive reactions at days 3 and 5 for nickel (+++) and cobalt (++). The subject had no recent nickel exposure, and we found no clinical relevance for cobalt. On day 5, the patient brought in a Sony PlayStation® One controller (DualShock™ manual analog controller; SCPH 1200). The patient spent several hours per day using a Sony PlayStation® One for work-related purposes, despite being on maternity leave. The volar surfaces of the fingers were clearly making contact with the controller during gaming (Fig. 2). Attempts to obtain information from Sony Corporation on the precise composition of the controller were unsuccessful. Patch testing and chemical anal-

ysis with scratch material from the controller were not performed. After PT, the patient's use of gloves when using the controller resulted in the complete clearance of the lesions without relapse. The localization and shape of the lesions fitted the area of the hand that made contact with the controller, and the resolution of the condition in response to the patient's use of gloves prompted us to diagnose chronic contact eczema caused by the use of a video game controller. However, because we lacked in-depth testing and analysis of the controller material, we could not identify the culprit allergen (nickel, cobalt, plastic materials, or others).

Giordano-Labadie *et al.*<sup>4</sup> recently presented a 14-year-old atopic teenager with chronic hand eczema caused by the intensive use of two different game stations (PSP3 and X-Box 360), in whom PT for benzoyl peroxide, an oxidant agent used in the plastics industry, was positive. As in the present patient, attempts to obtain information on the composition of the controllers were unsuccessful, and composition was not mentioned on the controller data-sheet,<sup>5</sup> but the use of silk gloves prevented any relapse. Benzoyl peroxide was not tested in the present case. Cobalt can be used as an accelerator in polyester resins.<sup>6</sup> Unsaturated polyester resins are widely used in the manufacture of reinforced plastic products.<sup>7</sup> Cobalt release from polyester resins was suspected in a case of right hand contact dermatitis caused by the use of a computer mouse.<sup>6</sup> Such polyester resins may have been used in the manufacture of the controller. Daily gaming, sweating of the hands, and a warm and moist local environment may precipitate the occurrence of contact dermatitis by enhancing the penetration of allergens to the skin. Additionally, in 2001, this model of PlayStation® One controller was available in different colors around the world (light and dark gray, emerald, crimson),<sup>8</sup> which suggests that its composition may have varied according to color.

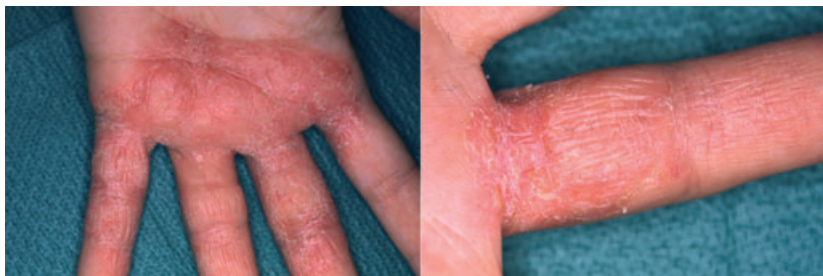


**Figure 1** Chronic contact eczema on the hands



**Figure 2** Use of a Sony PlayStation® One controller showing how the hands and fingers make contact with the controller during gaming

Furthermore, composition may differ according to the time of production and the manufacturer, as has been observed in the use of nickel in cell phones.<sup>9</sup> It is also noteworthy that video game technology evolves rapidly. The PlayStation® One controller was released in 1997 and withdrawn in 2004. Additional cases may have gone unnoticed. Thus, the use of video games may be relevant in young patients with intractable hand eczema and a history of intensive video gaming.

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