

CENTRAL VENOUS ACCESS DEVICES-ASSOCIATED CONTACT DERMATITIS IN PATIENTS WITH CANCER: THE UTILITY OF LARGER SCREENING PATCH TESTS

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Skin complications associated with central venous access devices (CVADs) are frequently reported, including irritant (ICD) and allergic contact dermatitis (ACD). Our case illustrates the necessity to use larger screening patch tests to identify the culprits and to limit treatment disruption in cancer patients.

Case report

A 37-year-old man with metastatic testicle tumor requiring chemotherapy presented a papulovesicular eruption around a port-a-cath (PAC) implanted 48 hours earlier. Because of superinfection, the device was removed and the lesions resolved in few days. A peripherally inserted central catheter (PICC) was set as an alternative but the patient developed erythematous and erosive lesions 14 days later (Fig.1A) while antiseptics were still used. The PICC was finally removed due to the absence of improvement.

Patch testing including European baseline, plastic and glues, epoxy series, chlorhexidine and povidone-iodine were performed to identify a possible allergen common to both PAC and PICC implant procedures. Tests revealed an atypical reaction to povidone-iodine “as is” (Fig.1B), and a negative reaction to other allergen preparations, including povidone-iodine 10% aq. Povidone-iodine-free treatment was suggested for a new PAC implant, but the patient still developed a local vesicular reaction 12 hours later (Fig.2).

Further patch-tests were carried out with rubber additives, isocyanate, and (meth)acrylate series as well as, semi-open, a surgical glue (Dermabond, 2-octyl cyanoacrylate), latex gloves and several PAC components (fragments of the rubber, metallic and plastic parts). At day (D) 3, positive reactions were seen for Dermabond (++) (Fig.S1) and ethyl cyanoacrylate 10.0% pet. (++) (Fig.S2).

ICD to antiseptics and ACD to Dermabond were diagnosed and a new PAC was implanted, avoiding povidone-iodine and cyanoacrylates. No reaction resulted, allowing the resumption of the chemotherapy.

Discussion

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Skin allergy is the most common PICC-related complications in patients with cancer (1). ICD is mostly related to the use of chlorhexidine gluconate, responsible for erosive lesions (2). Some cases of ACD have also been described with polyurethane PICC (3). These complications required a removal of the device in near 40% of cases (1), causing an interruption of chemotherapy.

Our case is atypical due to different skin reactions observed after both CVADs implant. This led to search a single culprit for both reactions. In the absence of exhaustive patch tests, the single reaction to povidone-iodine “as is” was considered as relevant in terms of causing ICD - false-positive patch test reactions to povidone-iodine being well known (4).

These mistakes could have been avoided, and chemotherapy interruption limited, had a larger screening patch test series been used. In the second patch testing, we observed a vesicular reaction to the surgical glue Dermabond and to ethyl cyanoacrylate 10.0% pet., likely representing cross-sensitization with 2-octyl cyanoacrylate. ACD to Dermabond is characterized by a high prevalence of primary sensitization (5), justifying to suspect it even after a single exposure. In our patient, although it remains uncertain, the sensitisation to octyl cyanoacrylate via one of the catheters is the main hypothesis.

To conclude, a rapid detection of the causative substances by a larger screening patch tests in patients with cancer is essential to limit the treatment disruption.

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Legends

Fig.1A : Erythematous and erosive lesions 14 days after PICC insertion.

Fig.1B : Atypical reaction to povidone-iodine “as is” and negative reaction to povidone-iodine 10% aq.

Fig.2: Erythematous and vesicular reaction 24 hours after second PAC implant.







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