

BRIEF ARTICLES

Persistent Chloracne in a Tank Mechanic

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ABSTRACT

Chloracne is characterized by acquired dioxin-induced skin hamartomas (MADISH), often involving the post-auricular skin. Chloracne classically occurs in individuals exposed to Agent Orange and dioxin-containing oils used in machinery. Since new-onset acne vulgaris is unusual in adults, a thorough occupational history must be elicited in this patient population. The herein patient is a retired tank mechanic with no known exposure to Agent Orange and presents with persistent acneiform eruptions.

CASE REPORT

A 74-year-old male presented to our dermatology office for a routine skin check with an impressive acneiform eruption over his face. He stated that his acne lesions developed after 35 years of age and have persisted since this time, having denied a history of significant acne in his teenage years. The patient retired 14 years ago from his career as a military tank mechanic. Physical examination showed numerous large closed and open comedones and non-inflamed cystic structures located over the face and bilateral post-auricular skin (figure 1 and figure 2). He denied an examination of his genitals. The patient did not have any significant past medical history or chronic illnesses and was not taking any medications or supplements. The authors believe this to be most consistent with chloracne, which is more descriptively known as metabolizing acquired dioxin-induced skin hamartomas (MADISH).

Figure 1. Large closed and open comedones and non-inflamed cystic structures on the face

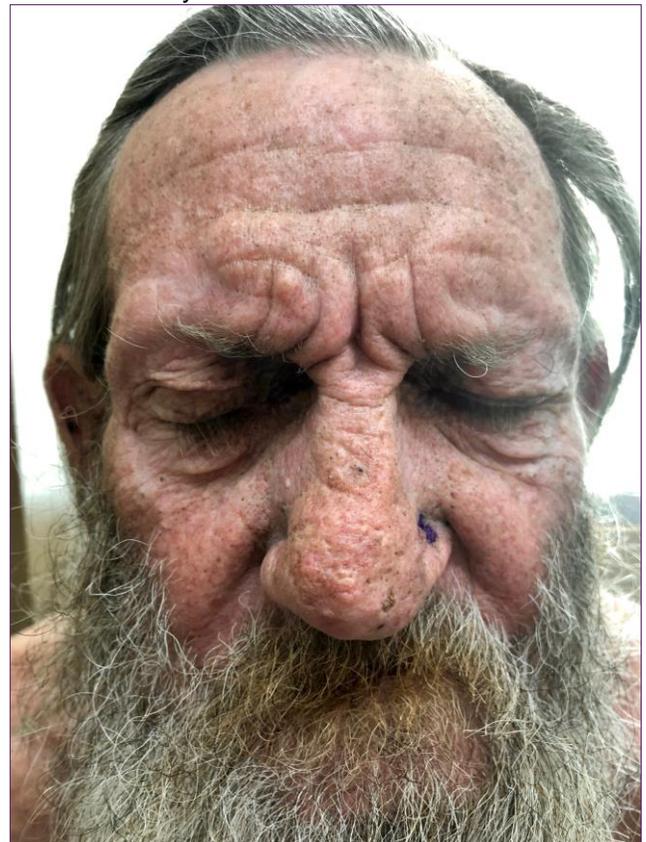


Figure 2. Large closed and open comedones and non-inflamed cystic structures on the face



DISCUSSION

Most cases of MADISH are due to occupational and environmental exposure to dioxin or similar toxic halogenated aromatic hydrocarbons. These are most often found in fungicides, insecticides, herbicides, and wood preservatives. One of the most popular sources of dioxin came from Agent Orange, commonly used during the Vietnam war. Our patient denied direct exposure to Agent Orange, but was possibly exposed to dioxin or similar chloracnegens via his work with tank machinery. Acute exposure to dioxin and similar chloracnegens may cause fatigue, anorexia, liver dysfunction, and neuropathy.¹ With further progression of the condition, the chemical is thought to redistribute into the fat cells and sebaceous glands where it is concentrated and slowly

metabolized. Through this process, the gland alters its gene expression to upregulate CYP1A1 and it transforms into the cutaneous hamartoma seen in chloracne.² Chloracne is classically characterized by open and closed comedones and cysts on the cheeks, behind the ears, in the armpits and in the groin.¹ The diagnosis is primarily based on the patient history and clinical examination.

Chloracne is a chronic condition and the clinical course depends on the intensity and duration of exposure. Chloracne is typically difficult to manage because it is highly resistant to treatment. The most commonly recommended treatment regimen includes removing the source of dioxin exposure and symptomatic care.² Although there have been reports that isotretinoin, dermabrasion, and light electrodesiccation may be beneficial in the treatment of chloracne, the condition remains to be mostly treatment-resistant.³ We present a case of chloracne to highlight the unique clinical characteristics and bring awareness to the difficulty of treatment. We also use this case to highlight the variability in disease duration. Most cases have reported that the lesions typically regress and heal over time.⁴ However, similar to what this patient has experienced, other reports have shown that chronic chloracne disease can persist up to 30 years after an exposure to dioxin-related chemicals.⁵

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