

CONTACT POINT

Sometimes even Dr Google is wrong: An unusual contact dermatitis caused by benzoyl peroxide

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The use of the internet to obtain medical information is becoming increasingly common among patients as a substitute for consulting a healthcare provider.¹ The present case is a typical example of sequelae of self-diagnosis and self-therapy in a patient who preferred to look for a “do-it-yourself” solution online.

CASE REPORT

A 32-year-old non-atopic male presented with intense pruritic erythematous dermatitis in his groins and scrotum (Figure 1A) after self-administration of various unspecified topical medicaments. The patient reported that he had searched for his symptoms, namely “burning and redness”, on Google, and had come to the conclusion he was suffering from an infection. He therefore applied Benzac 5% gel, as suggested online, but the skin eruption worsened. Thereafter, he used PREP cream, which, according to online descriptions, had “calming properties”, but there was no improvement. Finally, our treatment with systemic antihistaminic and topical corticosteroids and antibiotics along with cessation of other topical medicaments led to rapid resolution of the dermatitis.

Patch testing was performed with the Italian Society of Allergological, Occupational and Environmental Dermatology (SIDAPA) base-line series (Lofarma, Milano, Italy) on Van der Bend chambers (Van der Bend, Brielle, The Netherlands) and with both of the above-mentioned topical products tested “as is”. Patch tests were applied under occlusion on the patient’s back for 2 days; readings were performed on day (D) 2 and D4 according to ESCD guidelines.² A positive reaction (++ on D4) was observed to the patient’s own product, Benzac gel 5% (Figure 1B). Further patch testing with benzoyl peroxide 2% pet. was performed, and yielded an extreme positive reaction (+++) on D4 (Figure 1C). Allergic contact dermatitis caused by benzoyl peroxide was thus diagnosed.

DISCUSSION

The finding of allergic contact dermatitis induced by an anti-acne product applied to the genital area is quite unusual. The tendency to seek advice concerning health problems online is very widespread. More and more often, patients rely on information that they obtain on the web, which is, however, very often of little scientific value.^{1,3}

Prompted by this unusual case, we decided to go online to better understand the Italians’ interest in the dermatological field. “Google Trends”⁴ is a novel, freely accessible tool that allows users to interact with internet search data. It may provide insights into population behaviour and health-related phenomena. Google Trends is based on the Google search engine, and shows the frequency of searching for a specific word or topic on the web. Each search term is assigned a number between 0 and 100, which indicates the normalization of the search term’s frequency, as compared with the total number of Google searches over time.³ Line graphs show the relative search volume of each word, and bar graphs show the relative average search volume of each word. We carried out research on Google Trends to compare the trends of 3 common chronic diseases, that is, diabetes, hypertension, and hypothyroidism, with the term “dermatitis” over a 12-month period (May 2017 to May 2018) in Italy (Figure S1A). Only the term “diabetes” had been searched for more often than “dermatitis”, which showed a fairly stable trend over the study period.

We also compared the trends of 3 common medications, namely, (1) the lipid-lowering “statin”, (2) the diuretic “Lasix”, and (3) the non-steroidal anti-inflammatory drug “diclofenac”, with the term “Benzac” during the same period among Italian internet surfers (Figure S1B). The bar graphs showed that “Benzac” was the third most popular, and the line graph showed some peaks during autumn and winter, in keeping with seasonal acne worsening. One of the main limits on the use of Google Trends in the analysis of people’s interests is its limitation



FIGURE 1 (A), Clinical presentation of the dermatosis, (B), Result of a patch test with Benzac gel 5% tested "as is" on D4: ++. (C), Result of a patch test with benzoyl peroxide 2% pet. on day 4: +++

to those who have access to the internet and who use Google as a search engine. Not using the internet is related to demographic variables such as age, place of residence, educational level, and family income.⁵ Dermatologists should be aware that the word "dermatitis" is often searched for online, and that the risk of self-diagnosis and self-treatment may become more common. Therefore, the patient's

history should include questions on any possible consultation of the internet.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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