



Short Communication: The power of observational medicine over the epidemiology of seborrheic dermatitis

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ABSTRACT

Observational medicine has solved the etiology of a familial seborrheic dermatitis, an allergy to haptene nicotine and allergen tobacco. Also a targeted treatment with sodium cromoglycate and then with Dead Sea salts shows well the involvement of tissue mast cells at the base of the sebaceous glands. Recently, epidemiological studies show a link of severity of seborrheic dermatitis in tobacco smokers. Also, it can be concluded that observational medicine is much faster to solve a skin disease in comparison with epidemiology.

Keywords: Seborrheic dermatitis, allergy, epidemiology, mast cells, dermatology, nicotine, haptene, tobacco, allergen, observational medicine, histamine

History of seborrheic dermatitis

Seborrheic dermatitis was first described in 1887 by Unna (1) because of the presence of sebaceous glands located in the face of patients with this dermatological syndrome.

Eight years earlier, Paul Ehrlich (2) identified the tissue mast cells and more than a century later, mast cells were confirmed at the base of the sebaceous glands. In his book «Allergy at the dawn of the third millennium» in 1997, immunologist Claude Molina described well the tissue mast cells around the sebaceous glands (3).

At the end of the 19th century, tobacco smoke began to invade public places. In 1903, seborrheic dermatitis was still rare (4). However, there was an exponential consumption of tobacco after the First World War and especially after the Second World War. In 1978, medical journals began to worry about the harmfulness of passive tobacco smoke for non-smokers (5).

During the twentieth century, seborrheic dermatitis was treated with local corticosteroids without seeking a precise etiology.

My familial dermatitis

At fifteen in 1968, I presented a dermatitis on both sides of the nose. I noticed that my father had this reaction since 1930 at the age of twenty and that my two brothers and my sister had the same dermatological reaction without understanding the origin. My whole family had allergic reactions including dust mite asthma for myself and other members of my family would sneeze a lot.

After stopping my medical studies, I then reoriented myself in a pharmacology and toxicology laboratory in Basel, Switzerland. I was then able to devote myself to looking for the etiology of our familial dermatitis which resembled a seborrheic dermatitis.

The search for an etiology

I observed that my father smoked a cigar on Sundays and had a reaction to his face. In addition, he showed me a 1940 prescription by a dermatologist who had prescribed him a solution containing epinephrine to apply locally on the reaction with a noticeable effect. For my part, I reacted quickly when I was next to pipe smokers and cigars that contain more nicotine.

In early 1975, I decided to apply a maceration patch of cigar leaves on my left forearm. After 15 minutes, the reaction was intense and urticarian with then a reaction to the face. The same solution was negative in a laboratory colleague. A doctor I knew gave me an intradermal test the following week with allergenic tobacco leaves extracts from the Institut Pasteur at 1/100,000. The response was very positive after 15 minutes with also a reaction to the face.

Recently my general review “Seborrheic dermatitis, origin and treatment” summarizes all of my research (6).

Indeed, I had the chance to conduct an intense bibliographical research in the recent library of the Faculty of Medicine of Basel. In particular, I quickly discovered that the German dermatologist Karrenberg (7) had caused anaphylactic shock in 1928 after applying a drop of 1/1,000,000 nicotine to a patient suffering from dermatitis of the hands, arms and face following the handling tobacco leaves.

After confirming our familial allergic reaction to the allergen tobacco and the hapten nicotine with the help of three international laboratories, I published my results in 1978 thus showing the importance of observational medicine (8). At that time, I already insisted on the involvement of blood basophils and tissue mast cells at the origin of our familial reaction.

A targeted treatment

I then successfully developed a sodium cromoglycate cream to stabilize the tissue mast cells found at the base of the sebaceous glands (9). The pharmaceutical industry in Basel did not pursue the development of this cream because anti-leukotrienes were in development. Competition for local corticosteroids was certainly also an ulterior cause.

More recently I showed that the high magnesium content of Dead Sea salts could stabilize mast cells and prevent their degranulation (10). This natural treatment has already been used successfully by thousands of patients since 2010 but without knowing the exact mechanism for this stabilization of seborrheic dermatitis, psoriasis and atopic dermatitis (11).

Nicotine as a hapten

I refuted a study in the famous British journal *The Lancet* in early 1989. In fact, the authors wanted to minimize the dermatological side effects of nicotine patches (7.7 mg, 13.8 mg and 21.2 mg of nicotine) by comparing them with a placebo which contained 1 mg of nicotine. I told the editor that a placebo had to be neutral and he published it immediately (6).

In 1998, researchers published confirmation of my work concerning the nicotine hapten without citing me. After a positive intradermal nicotine test in a hypersensitive patient, they applied a nicotine patch which caused widespread hives (6). It took another twenty years in 2018 to accidentally test a patient with seborrheic dermatitis with nicotine. The authors also have amnesia on my original work from 1978. Several publications have reported allergic reactions after use of chewing gum and nicotine patches with my responses to the editors (6).

The presence of histamine and allergic correlation.

Since 2011, three publications have demonstrated the presence of histamine locally in seborrheic dermatitis (12,13,14). We know that histamine is a mediator released by tissue mast cells causing redness and itching (15).

Recently, two researchers noted a link between allergies and seborrheic dermatitis (16).

The epidemiology of seborrheic dermatitis

It can therefore be seen that it takes a long time from the observation of a dermatological reaction despite allergy tests and side effects with nicotine products to link seborrheic dermatitis to a hapten in active and passive tobacco smoke.

Epidemiology only now makes the connection between

seborrheic and atopic dermatitis and smoking 46 years after my first observational publication (17, 18).

We can therefore conclude that observational medicine is essential for finding the etiology of a dermatological disease.

The author declares no conflict of interest

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