Bożena Podobińska

Academy of Physical Culture in Krakow, Al. Jana Pawła II 78, 31-571 Kraków, Poland
+48 501 144 051 *b.podobinska@pdukrakow.pl*

Sposób cytowania / Cite Podobińska B. The role of trichological interviewing and imaging in the diagnosis and treatment of scalp psoriasis. *Aesth Cosmetol Med*. 2025;14(1):7-12. https://doi.org/10.52336/acm.2025.002

The role of trichological interviewing and imaging in the diagnosis and treatment of scalp psoriasis

Rola wywiadu trychologicznego oraz obrazowania w diagnostyce i terapii łuszczycy skóry głowy

ABSTRACT

Scalp psoriasis is one of the most prevalent trichological disorders. It is frequently mistaken for seborrhoeic dermatitis or severe dandruff. Despite being non-infectious, its symptoms induce discomfort and thus deteriorate the psychological well-being of patients.

This study aimed to elucidate the issue of scalp psoriasis, including its distinctive skin lesions, symptoms, and prevalent causes.

An accurate diagnosis and identification of variables contributing to scalp lesions enable the selection of successful treatments. Consistency and a suitable diet can significantly enhance skin condition and prevent recurrences.

Keywords: scalp, psoriasis, scalp psoriasis, trichology, diagnosis, therapy

STRESZCZENIE

Łuszczyca owłosionej skóry głowy to jeden z najczęściej występujących problemów trychologicznych. Często mylona jest z łojotokowym zapaleniem skóry lub silnym łupieżem. Choć nie jest chorobą zakaźną, to jej objawy powodują dyskomfort i tym samym pogorszenie psychicznego komfortu życia osób chorych.

Celem pracy było przedstawienie problemu łuszczycy owłosionej skóry głowy, charakterystycznych zmian skórnych, objawów oraz najczęstszych przyczyn.

Prawidłowa diagnoza, rozpoznanie czynników prowadzących do występowania zmian w obrębie owłosionej skóry głowy pozwalają na dobór skutecznych terapii. Systematyczność oraz odpowiednia dieta mogą w skuteczny sposób poprawić stan skóry oraz zapobiec nawrotom choroby.

Słowa kluczowe: skóra głowy, łuszczyca, łuszczyca skóry głowy, trychologia, diagnostyka, terapia

INTRODUCTION

Psoriasis is an inflammatory autoimmune disease, characterized by the appearance of well-demarcated red papules on the body, usually covered with silver scales. It is defined by a chronic, unpredictable course and no complete cure. The prevalence of psoriasis worldwide is 2-3%. The lesions are most often localized on the elbows, knees, back and scalp, but can occupy any area of the body, including nails [1]. It is a non-infectious skin disease that mankind has been dealing with for centuries, and is now increasingly being diagnosed in dermatology and trichology offices. Psoriasis is the excessive proliferation of the epidermis and cells in the outer layer of the skin and the formation of inflammatory infiltrates from cells both in the epidermis and in the deeper layers of the skin. This appearance of the skin and the accompanying symptoms include reddened skin and annoying itching which cause discomfort and lead to a reduced quality of life.

Psoriasis is a problem not only for the sufferers but for many people who come into contact with them: family, friends, or co-workers. The reason is aesthetic qualities, i.e. visible skin lesions, which can be perceived as a contagious. Psoriasis is a disease that significantly reduces quality of life, negatively affecting all aspects of daily life and relationships with other people. It causes a sense of stigma and often contributes to anxiety disorders, depression and addictions. Patients have limitations in physical fitness and mental functioning, are socially withdrawn, avoid using swimming pools, communal showers, sunbathing, playing sports, and even forgo visits to the hairdresser [2].

Psoriasis often occurs with other systemic conditions, including obesity, hypertension, hyperlipidemia, diabetes, metabolic syndrome, cardiovascular disease and chronic kidney disease [2, 3].

Psoriasis of the scalp is often confused with seborrheic dermatitis (SE), atopic dermatitis (AD), dandruff or ringworm. In the practices of trichologists and dermatologists, a comprehensive interview, detailed diagnosis utilising a trichoscopic camera or videodermatoscope, and accurate distinction enable effective problem diagnosis, identification of its aetiology, and selection of suitable medication. Thus, the symptoms may be progressively alleviated, or at a minimum, the risk of recurrence may be reduced.

ETIOPATHOGENESIS OF SCALP PSORIASIS

Psoriasis of the scalp has a multifaceted origin, and the aetiology of this condition is not yet fully understood. It is one of the chronic and recurrent inflammatory-proliferative disorders, affecting about 2% of the adult population and 1% of children in Poland. Symptoms of the disease most often appear in people aged 22-25, and in children around the age of 8. In older people, it is usually observed after menopause. The pathogenesis of scalp psoriasis involves a shortened cell cycle from 27 days to 4-7 days and an autoimmune predisposition to T-cell-mediated inflammation [2].

The first symptoms of scalp psoriasis include inflammatory lesions covered with scales that are silvery-white in color. The first symptoms usually appear around the ears, above the ears at the back of the head or in the flexion line. Psoriatic lesions may be "wandering" or successively occupy the entire scalp surface.

Factors causing psoriasis

A healthy scalp undergoes cell renewal every 27 days, however, in psoriasis, this process is prolonged, hindering the body's ability to eliminate excess cells which accumulate on the surface of the scalp and form scaly white-silver patches. To date, there is no clear cause for such a functioning scalp. According to research and numerous observations, there are many causes, including an impaired immune system, genetics, long-term stress, and improper eating habits [4].

A contributing factor to this condition is polygenic inheritance. Additional aspects include immunological and environmental influences, such as physical trauma, stimulants (alcohol, tobacco), stress, narcotics, insect bites, as well as bacterial and viral infections and hormonal fluctuations. The condition is also associated with many comorbidities, such as metabolic diseases including diabetes and cardiovascular diseases (hypertension). Among the drugs that can trigger psoriasis are:

- drugs containing salicylates, some antibiotics, and especially sudden withdrawal of generally used steroids;
- non-steroidal anti-inflammatory drugs (NSAIDs), that is, popular and widely available medications used to treat pain and fever;
- β-blockers, which are drugs used in cardiology, among other applications;
- lithium, used in psychiatry;
- antimalarial drugs [4].

The first scientific reports of the genetic basis of psoriasis date back to the early 19th century, but it was not until the mid-20th century that Gunnar Lomholt's work confirmed the genetic basis of the disease [5].

Psoriasis is one of the genetically determined diseases. Its inheritance is polygenic, meaning that not just one gene is responsible for the disease. Studies show a much higher incidence of psoriasis in people who are related to each other, compared to genetic "strangers." The risk of developing the disease reaches 14% in offspring when one parent has the disease and as high as 40% when both parents have psoriasis. Thus, genetic factors play a significant role in the pathogenesis of the disease [5, 6].

Unfortunately, there is no one simple mechanism of inheritance. Over the years of research, numerous chromosomal abnormalities have been observed in psoriasis patients, including deletions, the presence of aneuploid cells or structural damage to chromosomes. In addition, a strong association between psoriasis and human leukocyte antigens (HLA) has been demonstrated [5, 6].

Genetic testing significantly contributes to the diagnosis of psoriasis and the differentiation of its subtype. Determination of the HLA-Cw6 antigen in a patient is possible through special genetic tests or serological techniques. Molecular typing of the HLA-Cw6 antigen in the diagnosis of psoriasis is based on the polymerase chain reaction (PCR) and is the primary method used in genetic laboratories. It detects the presence of HLA-C*06 alleles in human genetic material [5, 6]. The test is performed with 1 ml of blood drawn for anticoagulant [5, 6].

Genetic tests for detecting HLA-C*06 are superior to other (serological) methods in sensitivity and specificity, which for genetic typing is 100% [5, 6].

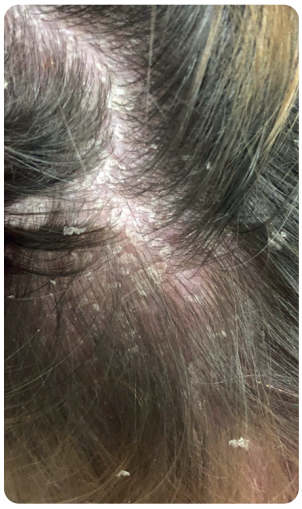

Fig. 1 Features of scalp psoriasis **Source:** Own archive

Fig. 2 Features of scalp psoriasis **Source:** Own archive

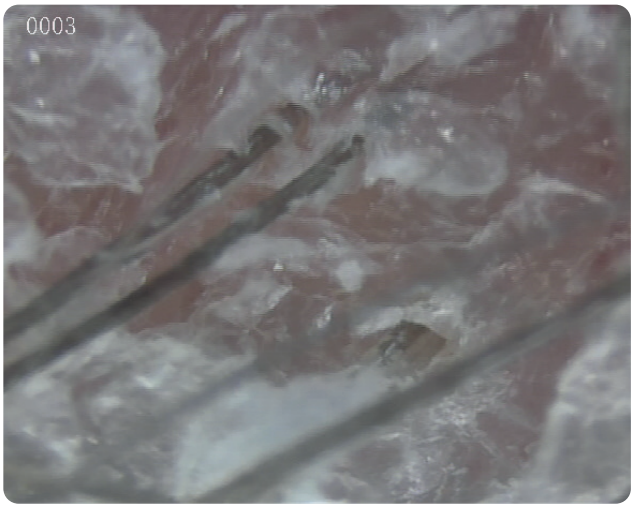

Fig. 3 Trichoscopic image of the scalp with characteristic red spots and silvery-white scales resembling dandruff **Source:** Own archive

CHARACTERISTIC FEATURES AND SYMPTOMS OF SCALP PSORIASIS

The skin lesions on the head in the course of psoriasis are in the form of exfoliating papules, followed by discs, under which there are reddish-brown foci, bleeding punctate when scraped off (Fig. 1, 2).

Skin inflammation, erythematous lesions, dermal papular eruptions exhibiting a silvery-gray colour, associated vascular patterns, and accompanying itching and scalp pain are characteristic symptoms of scalp psoriasis (Fig. 3).

Characteristics include:

- red spots on the scalp,
- dry and tight scalp,
- occurring itching of the affected areas,
- skin burning sensation and soreness,
- silvery-white scales resembling the features of dry dandruff,
- spot bleeding due to scratching of skin lesions,
- lost hair due to scratching the scalp.

People with scalp psoriasis, similar to those with AD, have intense itching, prompting a reflexive impulse to scratch the skin. They frequently irritate the scalp with a comb or brush while grooming their hair, resulting in prolonged healing times despite treatment efforts.

Trichoscopic image of scalp psoriasis – diagnosis, recognition, differentiation

The course of the condition is chronic and characterized by episodes of exacerbation and stability, which is one of the criteria for a correct diagnosis. A well-conducted trichological history, a trichoscopic camera with high magnification capability (greater than 50x) and correct differential diagnosis

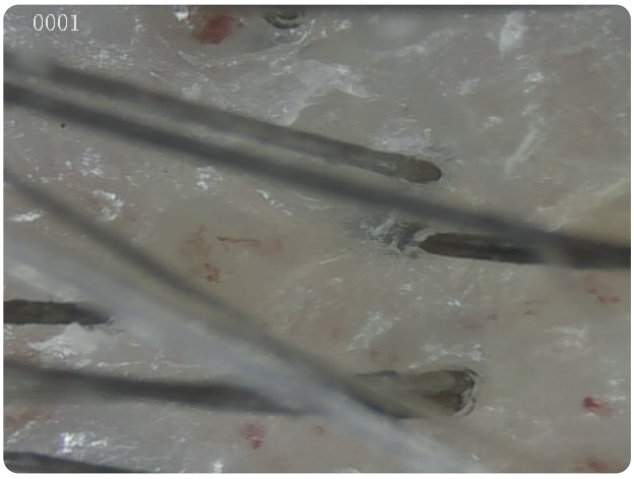

Fig. 4 Trichoscopic image of the scalp demonstrating the characteristic vascular pattern of psoriasis **Source:** Own archive

are essential. In severe cases, medical consultation with a dermatologist and histopathological examination are necessary.

A multitude studies on trichoscopy in scalp psoriasis indicates that the assessment of scalp blood vessels possesses the most diagnostic significance [7]. At low magnification (less than or equal to 50), the most characteristic signs are red globular rings and red globular lines. High magnification (greater than 50x) reveals that the globules are coiled (glomerular) capillaries (Fig. 4, 5) [7].

Another type of vascular abnormality, often seen in psoriasis, is the presence of clusters of multiple vessels distributed evenly across the field of view. These are loop-shaped linear vessels, lacunar vessels or vessel-clefts. Vascular abnormalities in scalp psoriasis usually coexist with

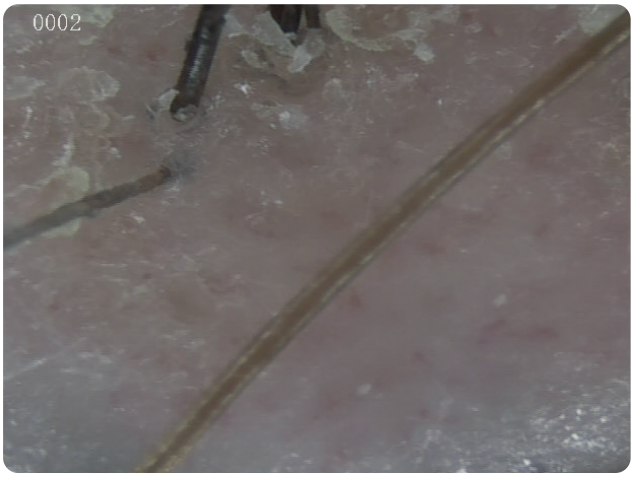

Fig. 5 Trichoscopic image of the scalp demonstrating the characteristic vascular pattern of psoriasis **Source:** Own archive

Table 1 Trichoscopic differential diagnosis of scalp psoriasis and seborrheic dermatitis

Features	Psoriasis	Seborrheic dermatitis
Exfoliation	diffuse, intermixed, white	diffuse, interfollicular, yellowish
Most commonly observed vessels	glomerular, coiled	thin, tree-shaped
Vascular arrangement	clusters of numerous, homogeneously distributed vessels arranged in rings or lines	irregularly distributed
Extravasations	frequent with a round shape	rare (linear laxity)

Source: [7]

white or silvery-white scaling. Clinically and trichoscopically, the most important differential diagnosis of psoriasis is seborrheic dermatitis (Table 1) [7].

EFFECTIVE TRICHOLOGICAL THERAPIES

One of the important elements in scalp psoriasis is proper care of the lesions. Such areas should be regularly cleaned, moisturized, lubricated and relieved of itching sensation with appropriate preparations, not only in case of remission. Currently, numerous cosmetic products claim to address this condition; however, the most effective treatments for the scalp are those found in trichological clinics, which contain active ingredients that restore normal skin function, provide hydration, and alleviate itching. In trichological preparations for scalp psoriasis, the most common active ingredients are marine collagen, plant-based extracts like ginkgo biloba, thorny capers, chamomile, sage, avocado, and peptin, serine, arginine, allantoin, which soothe, regenerate and reduce redness and itching of the skin. They can be applied to the entire body, not just the scalp. Home care with preparations designed for this type of condition should last a minimum of 3 months. The effects of using a trichological preparation with marine collagen on the scalp with psoriasis are shown in Fig. 6.

The trichological history should serve as the foundation for further diagnosis and the formulation of trichological treatment. The trichological interview assesses lifestyle, dietary habits, addictions, and mental or emotional state. These are circumstances that may induce remission of the condition [8].

If psoriasis is identified, the trichologist should do a thorough analysis by posing relevant enquiries, including:

Fig. 6 Effects of a trichological preparation containing marine collagen, caper extract, pectin, arginine and allantoin
Source: Own archive

– The problem the client reports to the office with and how long it has been occurring.
– Presence of problem of excessive flaking or oily scalp or hairy scalp, such as itching, burning, scalp sensitivity, thinning or increased hair loss (to rule out Psoriasis).
– Family history of the disease, which will allow analysis of the genetic inheritance of the probability of the problem, and whether other family members had a similar symptoms.
– Hairy scalp care habits, which are very often incorrect - using inappropriate hair or scalp care products (to rule out dandruff).
– Their current health status, medications taken, eating habits, e.g., whether they follow a diet, eat a lot of sweets and fast food, smoke cigarettes, drink a lot of coffee, etc.
– Work environment - do they work at night and sleep off during the day, do they work in a protective helmet for several hours a day, is the room where they work ventilated and is there air conditioning?
– Recent laboratory tests, and most importantly, were vitamin D3 levels tested [8]?

The interview with a trichology client should be calm and educational. Such a conversation allows to determine the cause of the scalp psoriasis condition, plan effective therapy and its continuation in home care, as well as make the client aware of lifestyle changes and habits that greatly support the therapy process.

One common prevention concern is sun exposure and protecting psoriatic lesions with sunscreens that defend the skin from ultraviolet radiation. Summer is a friendly season for people suffering from this ailment. Ultraviolet rays with a wavelength range of 280-320 nm (UVB) exert an immunosuppressive effect, positively influencing the immune system and so enhancing skin condition. Regular exposure to sunlight is thus advised, while ensuring sufficient protection to prevent burns [9].

The summer season is an opportune time to modify dietary habits that may alleviate psoriasis symptoms (remission). Fresh, seasonal fruits and vegetables serve as a source of fibre, vitamins, and minerals. Furthermore, the consumption of saturated fats (animal fats) should be diminished, and the diet ought to be enhanced with foods abundant in necessary fatty acids, such as cereals and vegetable oils. Alcohol and tobacco should be eradicated. The appropriate maintenance of the scalp, in conjunction with modifications in dietary practices and lifestyle, influences the outcomes and efficacy of the treatment.

Therapy of scalp psoriasis requires a personalized approach. Lifestyle changes and natural modalities greatly assist the entire therapy process and are therefore recommended:
– changing eating habits - eating plenty of omega-3 and omega-6 polyunsaturated fatty acids (fish, seafood or legumes), vegetables (a source of vitamins A, B, C, D and E), lean white meat and nuts, and giving up fast food, fried meats and sweets;
– elimination of alcohol and cigarettes;
– drinking plenty of mineral water, vegetable and fruit juices (except citrus), as well as infusions of herbs (St. John's wort, chamomile, nettle, calendula, yarrow) - the skin becomes more elastic, and the herbs have regenerative, anti-inflammatory and antiseptic properties;
– the use of natural shampoos based on herbs (chamomile, St. John's wort, yarrow, passionflower), which do not contain sodium lauryl sulfate (SLS), however in their composition are: allantoin, urea, glycerol, salicylic acid and lactic acid, which properly moisturize the skin;
– leading an active lifestyle - cycling, walking outdoors, especially on sunny days;
– aromatic baths using natural oils, while bathing, moisten the affected area with additional oils (coconut, lavender, geranium or tea oil) or apply a poultice of soaked oatmeal.
– supplementation of calcium, iron, zinc, potassium and magnesium, which accelerates and promotes wound healing, has a regenerative effect;
– adequate amount of sleep - a minimum of 6 hours [9-16].

Such a lifestyle and regular use of trichological preparations will relieve the irritating itching and definitely improve the appearance of the affected scalp.

An additional factor supporting scalp psoriasis therapy is appropriate supplementation, especially for people with existing mineral and vitamin deficiencies, e.g. on low-carb diets (shedding excess weight) or who have problems with nutrient absorption, e.g. the elderly or those on restricted diets. Appropriately selected vitamins and minerals show a nourishing, regenerating and regulating effect on the epidermis.
- Vitamin A - regulates the process of epidermal proliferation and differentiation, also prevents excessive keratinization.
- B vitamins - relieve inflammation and inhibit the formation of new lesions.
- Vitamin C - unifies skin tone, and reduces redness and discoloration.
- Vitamin E - improves hydration and nourishment of any dry, tired and rough skin.

The most commonly recommended vitamin for supplementation during the treatment of psoriasis is vitamin D due to its widespread deficiency, especially during the fall and winter with limited access to natural sunlight. Experts recommend that adults aged 19-65 take prophylactic vitamin D at a dose of 800-2000 IU/day. For people with psoriasis, the dose can be as high as 800-4000 IU/day, or twice as much. Vitamin D helps ease the course of psoriasis, as well as prolong its remission time. It also improves the condition and quality of the epidermis [9-16].

SUMMARY

Psoriasis is a non-contagious condition; yet, its distinctive symptoms on the scalp can induce discomfort, diminish mood and quality of life, and frequently result in the avoidance of social interactions and apprehension regarding reactions from colleagues in the job. This is a humiliating condition that numerous young people experience. The disorder is exacerbated by the significant stress linked to its symptoms, perhaps leading to aggravated symptoms and increased hair loss.

A very characteristic feature of the disease is its severity in the autumn and winter, which is most likely related to the occurrence of infections, that is, a decrease in immunity and less sunlight, and thus vitamin D deficiency.

A correctly diagnosed scalp psoriasis and, above all, the determination of the causes or triggering factors facilitate the selection of effective therapy in a trichologist's office. Its effectiveness depends on systematic and regular adherence to the recommendations of the trichologist, while eliminating the factors that cause remission of this condition.

REFERENCES / LITERATURA

1. Wcisło-Dziadecka D, Adamczyk K, Antończak P, et al. *Podstawy kosmetologii Leczniczej*. Warszawa: Wydawnictwo PWN; 2022.
2. Reich A, Adamski Z, Chodorowska G, et al. Łuszczyca. Rekomendacje diagnostyczno-terapeutyczne Polskiego Towarzystwa Dermatologicznego. Część 1. *Przegl Dermatol*. 2020;107:92-108. https://doi.org/10.5114/dr.2020.95258
3. Reich K. Łuszczyca i schorzenia pokrewne. Łuszczyca jako układowa choroba zapalna: implikacje dla postepowania. *Dermatologia po dyplomie*. 2012;3(4);4-15.
4. Wolska H. *Łuszczyca*. Warszawa: Wyd. PZWL; 2009.
5. Szczerkowska-Dobosz A, Rębała K. Genetyka łuszczycy – od badań serologicznych antygenów zgodności tkankowej do badań asocjacyjnych całego genomu. *Przegl Dermatol*. 2011;98:377-383.
6. Turowski G, Kapińska-Mrówka M, Pietrzyk J. Badania populacyjne układu HLA w łuszczycy I. Częstości fenotypowe, genowe i haplotypowe. *Przegl Dermatol*. 1978;5:517-520.
7. Rudnicka L, Olszewska M, Rakowska A. *Atlas trichoskopii. Dermoskopia w chorobach włosów i skóry owłosionej. Tom I*. Warszawa: Wydawnictwo Czelej; 2020.
8. Musiał K. *Trychologia kosmetologiczna i lekarska*. Warszawa: Wyd. PZWL; 2022. https://doi.org/10.53270/2021.036
9. Lorbiecka K. Zachowania dietetyczne a przebieg łuszczycy. *Aesth Cosmetol Med*. 2021;10(2):69-74. https://doi.org/10.52336/acm.2021.10.2.05
10. Kaczamrczyk-Sedlak I, Ciołkowski A. *Zioła w medycynie. Choroby skóry, włosów i paznokci. Tom I*. Warszawa: PZWL; 2020.
11. Kaczamrczyk-Sedlak I, Ciołkowski A. *Zioła w medycynie. Choroby skóry, włosów i paznokci. Tom II*. Warszawa: PZWL; 2020.
12. Placek W. *Dieta w chorobach skóry*. Lublin: Wydawnictwo Czelej; 2015:130-131.
13. Szepietowski J, Adamski Z, Chodorowska G, et al. Leczenie łuszczycy zwyczajnej – rekomendacje ekspertów Polskiego Towarzystwa Dermatologicznego. Część I: łuszczyca łagodna, łuszczyca wieku dziecięcego. *Przegl Dermatol*. 2012;99:83-96.
14. Krajewska J. Pielęgnacja skóry w łuszczycy. *Lek w Polsce*. 2015;25(6-7):51-56.
15. Gaworczyk M. Łuszczyca – leczenie zewnętrzne. *Kosmetologia Estetyczna*. 2014;3(3):196-198.

otrzymano / received: 21.10.2024 | poprawiono / corrected: 29.10.2024 | zaakceptowano / accepted: 03.11.2024