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Review Article

Psoriasis: A General Review

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A B S T R A C T

Psoriasis occurs equally in both sexes, and it can occur and affect anyone at any age, but mostly it appears for the first time in young people between the ages of 15 and 25 years. Its prevalence in Western populations is estimated to be approximately 2–3%. Graphical plots showed an increasing prevalence of psoriasis with each consecutive survey in all examined age groups and birth cohorts, leaving time period effects as the explanation for the increase. The study found that 35% of people with psoriasis could be classified as having moderate to severe psoriasis.

We found a family history of the disease in around one-third of people with psoriasis, and researchers have also identified the presence of genetic loci associated with it. There is a 70% chance of a twin developing psoriasis if the other twin has psoriasis in monozygotic twins. But concordance is around 20% for dizygotic twins. Thus, we find both a genetic predisposition and an environmental response in the development of psoriasis.

Keywords: Psoriasis, National Psoriasis Foundation, Monozygotic Twins, Dizygotic Twins and Genetic

Introduction

Etymology

The term psoriasis is made of two Greek words, Psora and Asis. Psora means 'itch or scale, 'asis' means condition.

Definition

Psoriasis is a complex, chronic, chronic, non-contagious skin disease that is characterised by inflamed lesions covered with silvery-white scabs of dead skin. It is an autoimmune skin condition that involves hyperproliferation of the keratinocytes in the epidermis. It occurs when the immune system becomes overactive and sends out faulty signals that speed up the growth cycle of skin cells. appearance of lesions commonly seen on the elbows, knees, scalp, trunk.

Aims & Objectives

To elaborate Psoriasis in detail Psoriasis

Historical Review of Psoriasis

The condition of psoriasis was first mentioned by the Greek physician Hippocrates, who lived between 460 and 377 BC.

Some have the opinion that a condition named ''Tzaraat'' mentioned in the Bible is psoriasis.

Herodotus and Pluto united the group of skin diseases characterised by peeling of the skin, dryness, itching with the term "Psora".

People of Greek origin used the words 'Lepra' for scaly skin conditions and 'Psora' to describe itching skin conditions.

Famous doctor in Greek, Galan, first used the term psoriasis for the condition with scaly changes in the skin and a feeling of strong itch. However, the clinical features described by him resemble very little the present description of Psoriasis. The first clear description of Psoriasis belongs to Celes, who was a Greek philosopher who lived in the 2nd century.

Joseph Jacob Plenck, who lived in Vienna in the year 1776, wrote that psoriasis was almost a group of desquamative diseases.

In olden days, there was controversy or confusion between psoriasis and leprosy. There was a high prevalence of leprosy from 1000 to 1400 AD. During this time, many psoriasis patients were misdiagnosed as having leprosy and received the same brutal treatment as leprosy patients. They were isolated from the community. The church declared them officially dead, in 1313, Phillip Fair even ordered them to be burned at the stake.

English dermatologists Robert William and Thomas Buteman, who lived between 1757 and 1812, explained the concept of Psoriasis, its management, its complications. They differentiated between fungal infections, leprosy, Psoriasis.

They also separated the common and uncommon forms of Psoriasis. Distinguished two disease conditions: Discoid psoriasis, which he called 'Lepra gracorum, commonly known as Lepra Vulgaris or William's lepra, where the skin had scaly lesion(s), 'Psora Leprosa, where the skin had eruptive lesion(s).

E. Wilson, who lived between 1809 and 1884, called it Psoriasis alphosis' and believed Psoriasis to be an exfoliative form of Eczema.

While it may have been visually and later semantically confused with leprosy, it was not until 1841 that the condition was finally given the name psoriasis by the Viennese dermatologist Ferdinand Von Hebra.

Russian dermatologists of the 19th century, Polotebnov, Gerb Phospelov, H. Kobner, others, described Psoriasis as a systemic disease (Psoriatic disease), taking into account the connection between Psoriasis and the state of the internal organs and nervous system. It was during the 20th century that psoriasis was further differentiated into specific types. The 29th of October is noted as World Psoriasis Day.[1]

Incidence and Prevalence

Epidemiology

Onset before age 40 usually indicates a greater genetic susceptibility and a more severe or recurrent course of psoriasis.

Age Onset

Females tend to develop psoriasis more frequently than male. Age of onset revealed two peaks an early one at 16-22 years and a later one at 57 – 60 years. Patients with a family history of psoriasis tend to have an earlier age of onset.

Sex Ratio

The earlier age of onset in female suggests a greater incidence in young females than in young males. However, the incidence of psoriasis in adult men and women is usually reported to be equal.

Etiology of Psoriasis

The etiology of psoriasis is not defined properly till today. Certain researchers have given evidences that psoriasis may be inherited. Thus, psoriasis has been considered as an Idiopathic disease.

Genes and Multifactorial Diseases

In many diseases genetic component is already known to multiple gene and gene mutation as well as environmental factors. Psoriasis falls into this category.

So called single gene diseases are different from multifactor diseases in very important ways. In single gene disease, mutation in a single gene is both necessary and sufficient to produce the disease. Whether or not one gets the disease depends heavily on inheritance patterns and other factors, but genetic risk for the disease can be assessed.[2]

Role of T Cells and Cytokines

The process is driven by T cells, the attack force of the immune system. T cells start off as innate, unable to recognize antigens and with no instinct to attack them. However once T cells are exposed to an antigen, they bind together with the antigen and become active. They will be able to recognize the signal given off by the antigen and target it for destruction whenever the signal is packed up.

In psoriasis activated T cells move the dermis. This triggers the release of protein called cytokines that serve as chemical messenger in the immune system. These cytokines send out false alarm to the skin cells, activating their accelerated reproduction cycle. Cytokines also make the process 'snow ball'. They trigger inflammation. They cause the activation of even more T cells and call T Cells in other parts of the body to come on to the skin. They even set off the release of cytokines by the skin cells by themselves.

One of the cytokines released by the T cell is called "tumor necrosing factor" (TNF). TNF play a role in almost all psoriasis symptoms. Inflammation which include redness, pain and itching in the plaques. It may also lead to the multiplication of capillaries which results in Auspitz sign in psoriasis.

Psoriasis triggers: Common psoriasis triggers are

- Infection
- Reaction to certain medication

- Skin injury
- Stress
- Weather
- Other- hormones, addictions etc

Infection: Studies show that infection can trigger psoriasis. Patients with family history of psoriasis develop their first psoriatic lesions just after the Strep throat. Strep throat often precedes an outbreak of Guttate psoriasis. Inverse psoriasis is frequently aggravated by a thrush infection.

- Infections that can trigger psoriasis are
- Candida albicans(thrush)
- HIV
- Staphylococcal skin infections
- Streptococcal pharyngitis
- Viral upper respiratory conditions
- Reaction to certain medications

Some people develop psoriasis for the first time or experience a flare up after taking certain medication.

Medications that can trigger psoriasis are:

- Antimalarial drugs
- Beta blockers
- Cortico steroids
- Indomethacin
- Lithium

Skin Injury

People with psoriasis often notice new lesions 10 to 14 days after the skin is cut, scratched, rubbed or severely sun burned. This is called the 'Koebner phenomenon'. This relationship between skin injury and developing new psoriatic lesions has been observed in many patients.

Stress

Physical, Emotional and Psychological stress can be a trigger for psoriasis. Stress can be initiating condition, or for worsening the existing lesions. Skin relays non-verbal presentation to others because many times impression about a person is first made based on the surface appearance.[3]

Weather

Weather tends to be the most challenging factor for people living with psoriasis. Numerous studies indicate cold weather is common trigger for many people, while hot climates may help in the reduction of psoriasis.

Other Factors

Hormones, smoking, heavy drinking etc appear to trigger psoriasis in some people. Research suggests that localized pustular psoriasis may be more common in people who smoke tobacco. Other studies suggest a correlation between smoking and developing plaque psoriasis. Quitting smoking improves psoriasis for some.

Alcohol

Heavy drinking at a level liable to be detrimental to health was found significantly more common in male patients with psoriasis than in other psoriasis sufferers. Reports suggest an increased risk in alcohol addicts for both palmo plantar pustulosis and chronic plaque psoriasis.

Clinical Features

Clinically Psoriasis exhibit itself as dry, well-defined macules, papules and plaques of erythema with layer of silvery scales. The appearance of a typical lesion is characteristic for Psoriasis. The typical lesions are coin-shaped by confluence, big plaques of the size of the palm of a hand or figurate areas may not at all be present at the same time or in every case and are sometimes obscured. However in a disease of so many variations their features remain the lynchpin of diagnosis when other criteria are absent.[4]

Clinical Examinations: The below explained Tests are confirmatory to the diagnosis.

Auspitz Sign

This is classical sign occurs only in psoriasis. Psoriasis can be diagnosed when there is a classical silvery white scaling and the Auspitz sign.

Presence of small blood droplets on erythematous surface, when hyperkeratotic scales are mechanically removed from a Psoriatic plaque by scratching. This phenomenon is called Auspitz sign.

Koebner's Phenomenon

Psoriatic lesions develop along with the scratch lines in the active phase. It is better known as the 'isomorphic' or Koebner phenomenon.

Candle grease sign

Presence of candle grease like scale can be repeatedly produced even from the non-scaling lesions When a Psoriatic lesion is scratched with the point of a dissecting forceps. This is called the candle grease sign.[5]

Types of Psoriasis

Plaque psoriasis: This form is most prevalent and About 80% of all those who have psoriasis have this form. Scientifically it is called as Psoriasis vulgaris.

Character of lesion: Raised inflamed red lesion covered by a silvery white scale.

Site of lesion: Elbows, Knees, Scalp and lower back although it can occur on any area of the skin.

Guttated Psoriasis: The term guttate in latin means "a drop". It often comes on quite suddenly. Infections, stress, injury to the skin and the administration of certain drugs like anti malarials and beta blockers.

Inverse psoriasis: This occours in the armpits, groins under the breasts, in other skin folds and around the genitals and buttocks.

Erythrodermic Psoriasis: It is a particular inflammatory form of psoriasis that often affects most of the body surface. It may occur in association with Von Zumbush Pustular psoriasis. It generally appears on people who have unstable plaque psoriasis where lesions are not clearly defined.

Pustular Psoriasis: Pustular psoriasis is characterized by white pustules (blisters of non-infectious pus), which are surrounded by red skin generally occurs in adult. The pus consists of white blood cells. But neither It is an infection nor is it contagious.[6]

Manifestation with a Special Localization

Scalp: The most common localization in psoriasis is Scalp. Psoriasis may be localized to the scalp only with no involvement elsewhere. It may be in form of discrete plaque or there may be confluent patches covering large area of the scalp or the whole of the scalp may be affected. The lesions may advance over the hair margin on the facial skin. Eventually hair growth may be impaired.

Palms and Soles: Palmoplantar Psoriasis may occur with or without lesions at other localizations. The lesions are characterized by their sharp demarcation. The scales are firmly attached and often fissuring occurs. Sometimes the lesions are scattered in smaller units over the palms and soles. There may be a relationship to trauma or occupational irritants.

Flexural Psoriasis: Psoriasis occurs on extensor area. But sometimes it may occur when flexures like the groins, axilla and intra-mammary regions are involved. The lesions lose their dryness in these areas; hence scaling is reduced. Some degree of itching is present in this variety.

Sacral Region: This is a predilection site for psoriasis. Chronic plaques of psoriasis here may be fissured and lack the characteristic scaling.

Napkin Psoriasis: Psoriasis localized in the napkin area is not infrequent. This manifestation is probably triggered by irritation under the napkin. This may give first hint of Psoriasis in an infant.

Mucosal Membrane: The mucosal membranes are occasionally involved in psoriatic patients. Involvement of the oral cavity is associated with Psoriasis pustulosa.

Penis: The localization on the penis was seen in 2% of male Psoriatic. A sharp erythematous plaque with a variable degree of scaling characterizes the lesion. The glans penis is the most common site.

Ocular localization: It is reported in about 10% of cases. The most common presentations are scaling of the eyelids and blepharitis. However, conjunctivitis, keratitis, disturbances in lacrimation and crystalline micro-opacities have also been reported.

Nails: Pitting is the commonest nail abnormality with resulting malformation of the plate. It is due to psoriatic involvement of the nail matrix. The pits are small pin- sized lesion.

Onycholysis: This is lifting of the nail plate from the nail bed when there is involvement of the later.

Discoloration: More brownish red, oval or round lesions can be seen resulting from an accumulation of parakeratotic material in the nail bed. This is the 'Ofleck' phenomenon.[7]

Other Variants

Pustular Psoriasis

Pustular Psoriasis further divide as

Localized Pustular Psoriasis (Barber)

Generalized Pustular Psoriasis (Von Zumbusch)

Localized Pustular Psoriasis

It is also known as the Pustular Psoriasis of palms and soles because sterile pustular eruption affects the digits and volar skin of the hands and feet or both. Usually there is the presence of Papulosquamous Psoriasis elsewhere in the body. The paronychial skin may be involved with swelling, erythema and considerable local discomfort.

Generalized Pustular Psoriasis

It is a rare, fatal, pustular eruption developing in psoriatic patients with mild to moderate involvement. Sometimes it is present with Psoriatic Arthritis or Exfoliative Psoriasis.

High fever, leucocytosis, arthralgia, malaise and other constitutional signs accompany attacks. Aura of burning may occur prior to the appearance of the erythema and pustules especially in the inguinal, axillary and other flexural areas where the cold lesions are presents. The tongue and buccal mucosa may also be involved.

Seborrhoeic Psoriasis

Lesions occur on seborrhoeic sites, such as sternal region flexures, axilla and groin. The scales are silvery and greasy type. Flexural Psoriasis is included in this type.

Follicular Psoriasis

This is a morphological variant with prominent follicular oriented papule. This type of psoriasis has two clinical pattern which are adult type and childhood type.

Adult type: It is observed particularly in females in which follicular lesions occur on the thighs as a major part of the efflorescence.

Childhood Type: In this type involvement of trunk

dominates. Follicular lesions extend to form isolated plaques.

Psoriatic Arthritis

Psoriasis (of skin and /or nail), when associated with inflammatory arthritis (peripheral and/or spinal), but usually a negative serological test for rheumatoid factor. Psoriatic Arthritis may appear at any time between childhood and old age. The peak age of onset is between 36-45 years. In the etiological factors it is proved that genetic factors, environment factors and trauma are noted. Infection may also be relevant.

Lichnoid Psoriasis

In some types of psoriasis there is strong tendency to lichenification. Many of the separate papules and small plaques have the characteristics of Lichen Planus and at the same time they resemble as psoriasis. The affected area tend to be inner thigh, both flexor and extensor surfaces of upper and lower extremities.[8]

Complications of Psoriasis

1. **Infection:** Secondary infection when occours in psoriasis is rarely a problem except during topical steroid therapy when folliculitis and furunculosis are a hazard but staphylococcal infections are carried out in 50% of psoriasis especially on the lesions because of exfoliation.
1. **Eczematisation:** It is rare except as a result of sensitization to topical applied agents and may then lead to a generalized exfoliative phase.
2. Pustulisation : A positive correlation with pemphigoid has been claimed.
1. **Itching:** It is more common in flexural terms and unstable patterns. Often the itching reflects the emotional state of patients.
1. **Burning Tightness:** Erythematous and pustular forms are usually accompanied by sensation of burning.
2. Arthritis: Psoriatic arthropathy occurs in about 5% psoriasis.

Treatment

As Psoriasis is a complex and chronic disorder that detoriate quality of life, so treatment strategies are planned by considering both psychosocial and physical aspects of the disease. F,or treatment purpose it is categorize as General and Local forms. But in both cases, purpose of treatmenr is rapid control of the disease and maintaining that control. For localized disease, the combined use of topical corticosteroids with a non-corticosteroid agent (topical calcipotriene or tazarotene). But in case of generalized disease, UVB phototherapy is consider as an effective treatment that permits both rapid control and long-term maintenance.

Topical Treatment

The primary goal of this product is to soothe the skin and reduce dryness. Various Bath solutions and moisturisers, mineral oil, petroleum jelly available in the market can be used for this purpose, which accompanies the build-up of skin on psoriatic plaques. Different Medicated creams and ointments applied externally to psoriatic plaques can help in further reducing inflammation, removing built-up scale, reducing skin turn-over, clearing affected skin of plaques. The disadvantages of these topical agents vary, as they irritate normal skin and can be time consuming and awkward. It should not be used for long periods.

Phototherapy

Daily exposure to short, non-burning sunlight helped to clear or improve psoriasis in some patients. As Sunlight contains many different wavelengths of light. It was during the early part of the 20th century that it was recognised that for psoriasis, the therapeutic property of sunlight was due to the wavelengths classified as ultraviolet (UV) light.

Photochemotherapy

Psoralen and ultraviolet Phototherapy (PUVA) combines the oral or topical administration of psoralen with exposure to ultraviolet A (UVA) light. The mechanism of PUVA's mode of action is still not known. It may involve activation of psoralen by UVA light, which inhibits the abnormally rapid production of the cells in psoriatic skin.

Systemic Treatment

In spite of topical treatment and phototherapy, internal medications via pill, injection, etc. are used. Regular blood and liver function test should be done because of the toxicity of the medication. Most recurrences of psoriasis occur after systemic treatment is discontinued.[9]

Alternative therapy

Changes in diet such as Fasting periods, low-energy diets, vegetarian diets have improved psoriasis symptoms, diets rich in fatty acids from fish oil have also shown beneficial effects. Lifestyle habits related to alcohol, smoking, weight, sleep, stress, exercise also influence it.

Another treatment is ichthyotherapy, in which fish are encouraged to feed on the psoriatic skin of people with psoriasis, which is practised at some spas in Turkey, Croatia, Ireland, Hungary, Serbia. In this therapy. The fish, which live in outdoor pools, only consume the affected areas of the skin.

Oregon grape (Mahonia Aquifolium) is said to be effective in the treatment of eczema and psoriasis.[10]

Discussion

A diagnosis of psoriasis can be made by proper examination of the skin's lesions. There are no confirmative special blood

tests or any other diagnostic procedures for psoriasis. A skin biopsy, or scraping, may be needed to rule out other disorders and confirm the diagnosis.

Skin from a biopsy will show clubbed Rete pegs in psoriasis. Another common sign of psoriasis is the appearance of pinpoint bleeding from the skin below after scraping the lesion. (Auspitz's sign).

Conclusion

Psoriasis is a chronic, lifelong condition. There is currently no permanent cure, but various treatments can help control and manage the symptoms. Many treatments in medicine carry an increased risk of significant morbidity, including skin cancer,lymphoma,a and liver disease. However, most people experience local psoriasis in the form of minor localised patches, particularly on the elbows and knees, which can be treated with topical medication. Controlling the signs and symptoms typically requires lifelong therapy.

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