What is psoriatic arthritis?

Psoriatic arthritis (PsA) is a painful, progressively debilitating inflammatory disease[1]. It can affect people of any age although it occurs most commonly in people between the ages of 40 to 50[2,3].

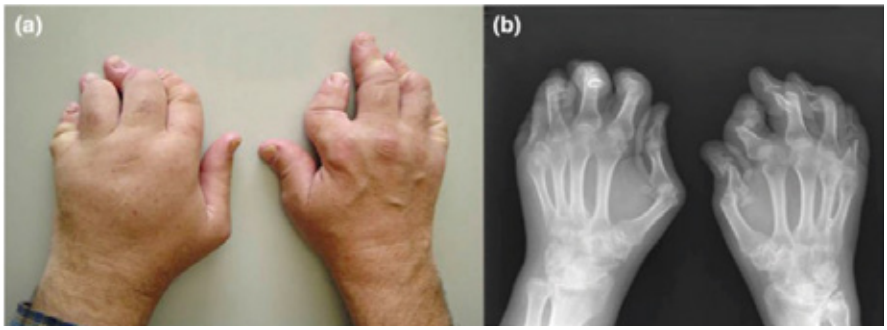
The exact number of people affected by PsA is unknown because there is no universally agreed set of diagnostic criteria but in the European Union it affects more than 2 million people and in the USA about 0.5 million[2]. PsA is one of the spondyloarthropathies, a family of long-term inflammatory diseases that affect the joints[2,4]. PsA is also closely associated with psoriasis; as many as 30% of people with psoriasis have PsA[1] and as many as 1 in 4 people with psoriasis may have undiagnosed PsA[5]. The level of underdiagnosis of PsA in psoriasis patients may be due to under-recognition of PsA symptoms and a lack of effective screening tools[2].

PsA symptoms can begin at any age, including in childhood, but the condition mainly affects adults, with the average age of onset being 45 years old[3]. People with PsA are genetically predisposed to the condition[6].

Permanent physical damage and psychological impact of PsA

The physical symptoms of PsA vary among patients and include[2,4]:

- Joint pain and stiffness
- Skin and nail psoriasis
- Swollen toes and fingers
- Persistent painful swelling of the tendons



Joint damage in psoriatic arthritis: a) Hands of a patient with psoriatic arthritis b) X-rayed hands of a patient with psoriatic arthritis.

Up to 40% of people with PsA will suffer irreversible joint damage and permanent physical deformity[7]

The symptoms and damage caused by PsA are debilitating and lead to poor functional ability, higher mortality, and the condition also negatively affects people's relationships[8].

Nearly two-thirds (63%) of people affected by PsA are unable to stay physically active and 47% find it reduces their ability to work[9]. The reductions in productivity and functionality are similar to those of patients with cancer, heart disease and diabetes[1,8]. Because people can no longer effectively undertake daily activities, many also experience feelings of depression, anxiety and social isolation[2,8]. Quality of life is significantly lower for people with PsA than those with other arthritic conditions, as their condition is often made worse by the negative effects of psoriasis[1,8].

People with more severe forms of PsA have a shorter life expectancy due to greater risk of cardiovascular events, inflammation of the eye, high blood pressure, obesity and type-2 diabetes[2,8,10].

Because of the high levels of disability and reduced life expectancy, PsA not only affects individuals and their families but is also a major economic burden for society[8].

The immune system's role in PsA

Interleukin-17A (IL-17A) is one of the many proteins in the body called cytokines that help protect the body against infections[11]. Cytokines usually work by signalling to infection-fighting cells that they need to mount an immune response once foreign invaders, such as bacteria or other disease causing germs, have been detected[11]. In inflammatory diseases, IL-17A has been identified as playing a key role in disease development[12].

In PsA, increased IL-17A levels in the lining of the joints may trigger an immune response that leads to painful joint inflammation, swelling and tenderness[12]. The central role of IL-17A in the development of inflammatory arthritic diseases makes it a promising target for therapeutic intervention[12].

Treatment goals in PsA: reducing disability

The goal of treatment is to maximise long-term health-related quality of life by controlling the symptoms of PsA and achieving remission, reducing the risk of mortality, preventing joint damage, improving patients' ability to perform everyday activities and tasks, and through improvements in health status, enabling people with PsA to enjoy a social life and be a part of their communities[2,8].

Unmet needs persist in PsA

There are a number of treatments available for PsA. These include non-steroidal anti-inflammatories (NSAIDs), steroids, disease-modifying antirheumatic drugs (DMARDs) and biological therapies[13]. However, about 45% of people with PsA are dissatisfied with current treatment options[14]. Tumor necrosis factor (TNF) inhibitors are the current standard of care for PsA[13], but 30-40% of patients fail to respond to TNF inhibitors and even in those who do initially respond to them, effectiveness may decrease over time[15,16]. Lack of satisfaction and waning effectiveness means there is a significant unmet clinical need for novel therapies that offer better disease control and long-term prevention of structural joint damage in PsA patients.

Newer, innovative treatments that specifically target the cytokines that trigger inflammation, such as IL-17A, interrupting the inflammatory cycle in PsA have been developed in response to this unmet need. These treatments have shown positive results in the treatment and management of PsA[17].

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