Psoriatic Arthritis Registries

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ABSTRACT. The introduction of new biological drugs for the treatment of rheumatoid arthritis and spondyloarthritis has led to the creation of a number of registries in Europe and the United States. Most of them are sponsored by national rheumatology societies, and provide information that is useful in clinical practice concerning the clinical characteristics, efficacy, and safety of all licensed biological drugs. Their findings also help to improve our understanding of the quality of life and working ability of patients receiving biological drugs, and suggest methods for allocating resources. However, there are only a few registries for psoriatic arthritis, and efforts should be made to increase their number to obtain further reliable and useful data. (J Rheumatol Suppl. 2015 Nov;93:30–2; doi:10.3899/jrheum.150631)

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Psoriatic arthritis (PsA) is a chronic inflammatory arthropathy of unknown etiology that affects as many as one-third of patients with psoriasis[1]. Its various manifestations include mono-oligoarthritis, an erosive and destructive polyarthritis that is indistinguishable from rheumatoid arthritis (RA), and spondyloarthropathy with axial involvement or enthesitis. The often progressively erosive joint destruction leads to cortical bone resorption, as in the case of RA, but may be morphologically characterized by bony spurs along entheses known as enthesiophytes[1]. The major joint damage observed in patients with PsA leads to disability over time and impaired quality of life. PsA is a member of the spondyloarthritis (SpA) family, an overlapping group of rheumatic diseases that also includes entero-associated arthritis, reactive arthritis, ankylosing spondylitis, and undifferentiated SpA and is characterized by axial skeleton arthritis with inflammatory back pain, uveitis, dermatological and gastroenterological involvement, and a genetic association with HLA-B27[2]. All patients with PsA must have psoriasis by definition; and although arthritis may precede psoriasis by many years, psoriasis usually appears before PsA. Nail lesions are very common and help to distinguish patients with PsA from those with RA or psoriatic patients with or without arthritis: they occur in 40–45% of psoriatic patients without arthritis and about 87% of patients with PsA. It has recently been confirmed that PsA is a chronic inflammatory arthritis and is associated with increased cardiovascular (CV) mortality[3,4]: patients with severe psoriasis requiring hospitalization have a 50% increased risk of dying of CV disease. CV disease seems to be associated with markers of disease activity such as the previous use of medications, a high erythrocyte sedimentation rate at presentation, and evidence of radiological alterations[4].

PsA treatment should be started with the aim of alleviating signs and symptoms, inhibiting structural damage, and maximizing quality of life. A number of studies have shown that anti-tumor necrosis factor (TNF) agents (particularly etanercept, but also infliximab and adalimumab) have positive effects on joints and skin, improve enthesitis and dactylitis, slow radiographic progression, and lead to better quality of life, although a number of different adverse events have been reported[5]. On the basis of these data, various cohorts of patients with PsA (with or without other rheumatic diseases) have been prospectively recruited and entered in registries over the last few years to learn more about the clinical characteristics, safety, and efficacy of anti-TNF drugs in clinical practice.

The aim of this review is to describe the role of registries in PsA management by examining those that are already available and the information they provide, and by discussing their usefulness in everyday clinical practice.

From Observational and Randomized Control Studies to National and International Registries

One of the first observational PsA cohorts was recruited in Leeds (UK) and described in 1973 by Moll and Wright, who reported the clinical patterns and familial occurrence of the disease and the spinal involvement[6,7,8]. However, the introduction of electronic databases has since allowed much more data to be collected. One of the first was the Microsoft Access database used in Bath (UK), which led to acquisition of new knowledge concerning the changes in clinical patterns of PsA

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over time and showed that the shared epitope was no more prevalent in patients with PsA than in the general population and that PsA was associated with the presence of erosive disease[9,10]. Also highlighted was progression of joint damage over a 5-year period, indicating that mortality in patients with PsA was similar to mortality in the general population[11,12].

Another important large observational registry of patients with PsA has been developed in Toronto since 1978 by Gladman, *et al*, including detailed information concerning the clinical and radiographic features of the disease, drug therapies, comorbidities, and outcomes. The Oracle database used for this registry is currently available on the Internet[13,14,15,16].

Randomized clinical trials (RCT) represent the gold standard for testing and demonstrating the efficacy and safety of biological drugs, but their controlled and rigorously applied inclusion and exclusion criteria frequently limit the generalization of their findings; while registries and longitudinal studies are often more useful for application to the population as a whole[17]. The main advantages associated with the findings derived from observational cohorts in clinical practice are that they mirror real-life situations, and because their populations are usually larger than those of clinical trials, they have greater power to detect rare events. Further, unlike RCT (which usually cover a limited period), registries are more appropriate for evaluating long-term results, a switch from one drug to another, and between-treatment differences.

On the other hand, the main disadvantages of registries are a shortage of data, the lack of a control group (which may raise doubts concerning the validity of the findings), and the requirement of more complex analyses. These disadvantages arise because the main aim of registries is not to draw comparisons between the population affected by a specific disease and healthy controls, but to observe the demographic, clinical, and therapeutic characteristics of a large cohort of patients[18].

International and National Registries

The introduction of new biological drugs for the treatment of RA and SpA has led to the creation of a number of registries in Europe and the United States. Most of them are sponsored by national rheumatology societies, and provide information concerning the clinical characteristics, efficacy, and safety of all licensed biological drugs; they are also designed as epidemiological cohort studies and are useful for evaluating clinical results over time[18].

Since 1999, all of the patients with RA (American College of Rheumatology criteria) treated with at least 1 dose of an anti-TNF agent at 4 rheumatology centers in Lombardy (northwest Italy) have been included in the Lombardy Rheumatology Network (LORHEN) registry, which was designed to track the efficacy and safety of 3 TNF inhibitors during the first 3 years of treatment[19]. The registry now includes more than 3000 patients with RA or SpA.

Four years later, another observational cohort of all Italian patients undergoing biological treatments was established. In 2008 a new independent database was funded by the nonprofit Italian Association of Rheumatic Patients and created by the Italian Group for the Study of Early Arthritis. In line with the network's epidemiological strategy, the initial protocol was designed to collect longterm followup data concerning patients with RA and SpA treated with biological agents to investigate the real-world characteristics of disease activity, comorbidities, and survival on treatment. The registry now includes more than 7000 patients[20].

Similar registries can be found throughout Europe, and although only a few were designed specifically for patients with PsA, a number that initially collected data relating to patients with RA have subsequently been extended to patients with SpA in general, including those with PsA.

One of the largest registries in Europe is the Danish DANBIO registry of a nationwide cohort that was started in 2000 and was designed to evaluate treatment response and drug survival and to identify response predictors in patients treated with TNF inhibitors. DANBIO now includes more than 1200 patients with PsA[21]. The same year saw the founding of the Spanish BIOBADASER registry, which was designed to compare the safety and retention rate of TNF antagonists used in approved rheumatic diseases, and now includes more than 800 patients with PsA[22].

In 2002, the British Society of Rheumatology Biologics Register (BSRBR) was started with the aim of assessing the persistence of first- and second-course treatment with anti-TNF agents in a prospective cohort of patients with PsA, and identifying the reasons for drug discontinuation and the factors associated with it[23]. The Swedish Early Psoriatic Arthritis Register is the only register that collects data on early PsA patients and provides information about the pattern of presentation, prognostic factors, disease severity, and progression over a period of 5 years[24].

Finally, a number of dermatology registries have been set up since 2005 in various European countries to collect data concerning biological and conventional therapies, comorbidities and adverse events such as neoplasias (particularly lymphomas) and infections, and their pathogenesis. Such national and international registries provide information that is useful in clinical practice about the efficacy and safety of drugs. Their findings also help to improve our understanding of the quality of life and working ability of patients receiving biological drugs, and to suggest methods for allocating resources. However, there are only a few PsA registries, and efforts should be made to increase their number in order to obtain further reliable data.

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