1.0 Abstract

Title

LOOP - Cross-sectionaL ObservatiOnal study evaluating clinical specialty setting as determinant of management of Patients with Psoriatic Arthritis

Keywords

Psoriatic Arthritis, clinical specialty

Rationale and Background

Psoriatic arthritis (PsA) is a chronic systemic immune mediated inflammatory disease characterized by the association of arthritis and periarticular inflammation with skin psoriasis. PsA occurs in around 30% of patients with psoriasis, while its population prevalence estimates range from 0.1-0.5% worldwide. Evidence suggests that timely and effective management can improve long-term outcomes in patients with PsA.

The rationale of this study was to provide important insights into the factors influencing management of PsA, which may aid planning improvements in the standards of care in this chronic systemic disease.

Research Question and Objectives

The primary objective of this observational study was to evaluate the association between the clinical specialty setting and time from inflammatory musculoskeletal symptom onset to PsA diagnosis and to different management steps in patients with a confirmed PsA diagnosis.

The secondary objectives of this observational study were:

- to explore the association between the timing of various management steps and current disease activity and burden in patients with a confirmed PsA diagnosis
- to describe the disease characteristics and comorbidities of patients whose suspected PsA diagnosis is not confirmed through a current routine rheumatological and dermatological assessment

Study Design

This observational study was conducted in a cross-sectional, observational, multi-country, multi-center format in 17 countries in Western and Eastern Europe, Middle East, Latin America and Asia.

For the management of PsA patients a regular collaboration between different specialties was advised. The recruiting site was to advise a consulting visit with a

rheumatologist and/or a dermatologist for a routine PsA disease assessment. All visits were planned to happen in a 12 weeks period.

Setting

In this analysis the following countries were included: Italy, Turkey, Brazil, Japan, Switzerland, Austria, Argentina, Bosnia, Czech Republic, Croatia, Vietnam, Colombia, Greece, Taiwan, Kuwait, Latvia, and Serbia.

Subjects and Study Size, Including Dropouts

In total, 1574 patients were enrolled. For 1483 patients data for all visits was available. 1273 of these patients fulfilled all inclusion criteria and had a confirmed diagnosis of PsA. Thus, these patients were included in the confirmed analysis set (CoS). The exploratory analysis set (ExS) consists of 83 patients who had data for all visits, who fulfilled the inclusion criteria with the additional restriction that only a suspected PsA (not an established PsA) was diagnosed and whose diagnosis of PsA was not confirmed.

Variables and Data Sources

The patient's disease activity was assessed by the physician providing the components of the ankylosing spondylitis disease activity score (ASDAS). Further disease activity scores were calculated from the source data as composite scores including DAPSA (Disease Activity in Psoriatic Arthritis), cDAPSA (Clinical Disease Activity in Psoriatic Arthritis), DAS28 (Disease Activity Score 28), MDA (Minimal disease activity) and VLDA (very low disease activity). In order to assess patient's health and quality of life the patient was asked to complete the following questionnaires: Health assessment questionnaire disability index (HAQ-DI), Short form-12 health survey version 2.0 (SF-12v2), Dermatology Life Quality Index (DLQI), and Work Productivity and Activity Impairment Questionnaire PsA (WPAI PsA).

Results

Mean age of patients was 50.9 years (range 18 to 86 years), 51.0% were male.

The mean time from PsA diagnosis to the visit at the recruiting site was 85.6 months, ranging from 0.0 months to 733.4 months. Most of the patients (57.0%) were recruited by a rheumatologist or a physician with a certified training for rheumatology assessments, 42.5% of the patients were recruited by a dermatologist or a physician with a certified training for dermatology assessments and 0.5% of the patients were recruited by other specialists and primary care practices (Non-rheum/Non-derm).

The great majority of patients (97.5%) showed skin symptoms. More than half of the patients (51.9%) suffered from pain in the heel and about two thirds of the patients

(66.8%) had swollen and painful finger(s)/toe(s) indicating dactylitis. Swollen joints were reported for most of the patients (86.4%).

For more than two thirds of the patients (67.4%) a comorbidity was documented. The most frequently reported comorbidity was hypertension (34.3%), followed by lipid disorder (31.2%) and obesity (25.1%).

For 971 patients (76.3%) the first csDMARD was documented. More than three thirds of these patients (78.7%) used methotrexate as first csDMARD. The first bDMARD was documented for 708 patients (55.6%). The great majority of these patients (92.1%) used TNFi as first bDMARD.

The mean time from inflammatory musculoskeletal symptom onset to PsA diagnosis was 24.39 months ranging from -489.00 to 534.97 months.

The mean time from PsA diagnosis to first csDMARD was 15.60 months ranging from -360.02 to 535.03 months. A significant association was found for time from PsA diagnosis to first csDMARD and clinical specialty (p-value: 0.0029). The negative effect estimate (-14.810) indicates that being recruited by a rheumatologist is associated with a shorter time period from PsA diagnosis to first csDMARD, while being recruited by a dermatologist is associated with a longer time period.

The mean time from PsA diagnosis to first bDMARD was 53.20 months, ranging from -155.99 to 615.00 months. A statistically significant association with the collaboration category was observed (p-value: 0.0136). The positive effect estimate (21.171) indicates that being recruited by a site with a newly formed relationship is associated with a longer time period from PsA diagnosis to first bDMARD, while being recruited by a site with an established relationship is associated with a shorter time period.

The mean time from first csDMARD to first bDMARD was 41.34 months, ranging from -155.99 to 400.99 months.

For DAS28 (Disease Activity Score 28), which measures the progress and improvement of rheumatoid arthritis (RA) also used in PsA, a mean value of 2.82 points was observed, ranging from 0.00 to 7.37 points. The SF-12v2 with derived physical component summary (PCS) and mental component summary (MCS) was used to measure overall health status, functional status and health related quality of life from the patient's point of view. The mean PCS was 43.26, ranging from 16.47 to 64.91 points, and the mean MCS was 45.16, ranging from 14.00 to 73.94 points.

WPAI PsA assessment yielded a mean presenteeism of 27.63% and a mean

absenteeism of 8.57%. A mean total work productivity impairment (also assessed by WPAI PsA) of 29.84% and a mean total activity impairment of 36.76% were observed (each of the four outcomes ranging from 0% to 100%).

The mean DLQI was 6.23, ranging from 0.0 to 30.0 points.

Discussion

Study results yield a comprehensive and detailed picture of management steps in PsA care. Notably, first diagnosis of PsA was made in the majority of patients by a rheumatologist, despite the commonly preceding psoriasis symptoms - in this study, 97.5% patients had skin symptoms. Even though PsA may have been suspected by the treating dermatologists, the final diagnosis was obviously left to the rheumatologists to make.

Rheumatologists were fastest both at diagnosing PsA and also at initiating a systemic therapy with csDMARD. In contrast, however, bDMARDs were initiated earlier by dermatologists in patients already taking csDMARDS. Hence, in patients already under dermatology care for their psoriasis, escalation from csDMARD to bDMARD appears to have been an obvious step.

Global assessment by patients and by physicians coincided noticeably, with a PtGA score of 3.9, and a physicians's PGA of 3.3, suggesting a good physician-patient communication.

Interestingly, time to diagnosis, time to first csDMARD and bDMARD therapy was longer in patients with higher disease activity. Although seemingly counterintuitive, this data constellation may in fact reflect the fact that early diagnosis and systematic treatment may prevent progression to a higher disease activity.

The value of effective treatment networks was supported by the fact that the existence of formed networks was associated with shorter latency until initial diagnosis of PsA was reached. Even though networks appear to exist and to be functioning, time to first diagnosis took on average 24.39 months, which is clearly too long. Particularly with respect to timely initiation of DMARD therapy, the importance of specialist became clear, as treatment at non-derm/non-rheum sites revealed unacceptable wait times. Along these lines, patient-reported outcomes on quality of life overall health status (DLQI and SF-12v2), disabilities (HAQ-DI), and workability (WPAI) were significantly associated with PGA and PtGA scores, suggesting considerable disease impact on the patient's well-being and functionality.

Patients in the Easten Europe and Middle East (EEMA) regions were diagnosed the

fastest, which may highlight good quality of the national healthcare system in this area of the world. Interestingly though, csDMARDS were prescribed fastest in countries of the Latin America (LA) region, a fact that may warrant further investigation.

In summary, data of this study confirm the value of functioning treatment networks to ensure optimal treatment of PsA patients, as the existence of formed networks was associated with shorter latency until initial diagnosis of PsA was reached. In addition, specialist care is paramount for timely initiation of effective DMARD treatment. Despite the existence of treatment networks, time to first diagnosis takes still clearly too long (approximately 2 years) internationally, and the disease impact is considerable. Moreover, geographical differences prevail: patients in EEMA were diagnosed the fastest, and patients in LA region were prescribed csDMARDS fastest. Observed differences may highlight varying standards of the various national healthcare systems and warrant further investigation.