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Prevalence of Sjögren's Syndrome in Patients With RA Enrolled in a Large Observational US Registry

LR Harrold,[1,2] *Y Shan*,[2] *S Rebello*,[2] *N Kramer*,[3] *SE Connolly*,[4] *E Alemao*,[4] *S Kelly*,[4] *JM Kremer*,[5] *ED Rosenstein*[3]

[1]*University of Massachusetts, Worcester, MA, USA;* [2]*Corrona, LLC, Southborough, MA, USA;* [3]*Institute for Rheumatic & Autoimmune Diseases, Overlook Medical Center, Summit, NJ, USA;*
[4]*Bristol-Myers Squibb, Princeton, NJ, USA;* [5]*Albany Medical College and the Center for Rheumatology, Albany, NY, USA*

Introduction

- Sjögren's syndrome (SS) is a systemic autoimmune disease characterized by glandular (e.g. dry eyes and mouth) and extraglandular (e.g. renal or lung disease) manifestations[1,2]
  - Secondary SS (sSS) occurs in conjunction with an underlying autoimmune disease, such as RA.[1]
  - The presence of SS adds to the disease burden of RA and negatively impacts the daily life of patients.[3]
- The prevalence of sSS in patients with RA and the characterization of this patient population are poorly understood.[1,4–6]
  - US prevalence data are limited, and estimate rates across Europe range widely from 4–31%.
- sSS is considered a poor prognostic factor in patients with RA; thus, identifying specific patient characteristics for patients with RA and sSS may help clinicians to better understand this patient population and the extra-articular manifestations of RA.

Objective

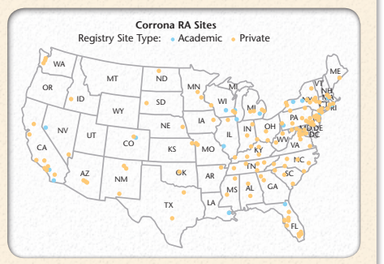
- To assess the prevalence of sSS and compare baseline characteristics of patients with RA, with and without sSS, in a national sample of patients with RA.

Methods

Data source

- The Corrona RA registry is an independent, prospective, national, observational cohort in which treatment and outcomes data for patients with RA are collected and analyzed (Figure 1).
  - Patients are recruited from 177 private practices and academic sites with 736 participating rheumatologists across 42 US states.
  - As of June 2018, the Corrona RA registry included information on 49,162 patients.
  - Data on 373,064 patient visits and approximately 173,389 patient-years of follow-up observation time have been collected.
  - The mean time of patient follow-up is 4.4 years (median 3.3 years).

Figure 1. Corrona Sites From Inception of Registry



Study population

- This study included adult patients with rheumatologist-diagnosed RA enrolled in the Corrona RA registry between April 22, 2010 and February 28, 2018.
- The index date was the date of first capture of sSS diagnosis (sSS patients) or first visit in patients with a negative sSS diagnosis (non-sSS patients).
- Patients with missing sSS information were excluded.
- Inclusion criteria:
  - at least one visit assessing the presence of sSS (yes/no).
  - at least 12 months of follow-up for patients without an sSS diagnosis to ensure complete data capture.
- Patients who had an sSS diagnosis (patients with RA and sSS) were compared with those who never had an sSS diagnosis (patients with RA only).

Study assessments

- Baseline characteristics in patients with RA were assessed by sSS status.
- The primary outcome was unadjusted prevalence of sSS for patients with RA.
- The secondary outcome was unadjusted prevalence of sSS by RA disease duration.

Results

- sSS data were available for a total of 35,156 patients with RA, of which 24,528 patients met the inclusion criteria (Figure 2).
  - There were 7870 patients (32.1%) with a diagnosis of RA and sSS.

Patient characteristics

- Patient characteristics at the index visit are presented in Table 1.
- Compared with patients with RA only, patients with RA and sSS were more likely to be female, older and have a longer RA disease duration.

Figure 2. Selection of Eligible Patients for Analysis

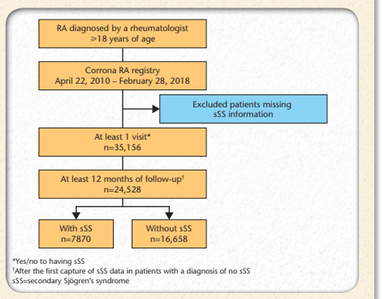


Table 1. Baseline Characteristics at Index Date

	Patients with RA and sSS (N=7870)	Patients with RA only (N=16,658)
Age, years, mean (SD)	62.5 (11.9)	59.2 (13.1)
Sex, female	6617 (84.4)	12,229 (73.8)
Duration of RA, years, mean (SD)	13.6 (11.0)	9.5 (9.2)
Work status	N=7692	N=16,373
Full-time	2142 (27.8)	6530 (39.9)
Part-time	607 (7.9)	1389 (8.5)
Disabled	1237 (16.1)	1716 (10.5)
Retired	2986 (38.8)	5169 (31.6)
Other	720 (9.4)	1569 (9.6)
Co-morbidities		
CV disease*	1219 (15.5)	1710 (10.3)
Hypertension	2909 (37.0)	5214 (31.3)
Malignancy†	1223 (15.5)	1821 (10.9)
Diabetes	775 (9.8)	1416 (8.5)
Serious infections‡	795 (10.1)	845 (5.1)
COPD	270 (3.4)	355 (2.1)
ILD/pulmonary fibrosis	81 (1.0)	81 (0.5)
Asthma	403 (5.1)	590 (3.5)
Cyclic citrullinated peptide positive, n/m (%)	1999/3420 (58.5)	4076/7451 (54.7)
RF+, n/m (%)	2983/4296 (69.4)	6338/9492 (66.8)
Erosive disease, n/m (%)	2480/6650 (37.3)	4230/12,406 (34.1)
Subcutaneous nodules, n/m (%)	2700/7869 (34.3)	2886/16,640 (17.3)
CDAI, mean (SD)	13.4 (12.8)	11.3 (11.9)
Current medication use		
TNFi biologic	2924 (37.2)	6390 (38.4)
Non-TNFi biologic/tsDMARD	781 (9.9)	962 (5.8)
Abatacept	591 (7.5)	980 (5.9)
csDMARD	7227 (91.8)	15,650 (93.9)
Number of prior biologics/tsDMARDs		
0	2583 (32.8)	7593 (45.6)
1	2656 (33.7)	5592 (33.6)
≥2	2631 (33.4)	3473 (20.8)
Number of prior csDMARDs		
0	367 (4.7)	1704 (10.2)
1	2984 (37.9)	8016 (48.1)
≥2	4519 (57.4)	6938 (41.6)
Patient-reported outcomes		
mHAQ score, mean (SD); n	0.4 (0.5); 7659	0.3 (0.4); 16,466
Pain score, mean (SD); n	37.2 (28.7); 7829	31.2 (27.5); 16,549
Global assessment score, mean (SD); n	35.3 (27.3); 7830	28.9 (26.4); 16,549
Morning stiffness, n/m (%)	5884/7717 (76.2)	11,628/16,334 (71.2)

Data are n (%) unless otherwise stated
*History of coronary artery disease, myocardial infarction, coronary heart failure requiring hospitalization, acute coronary syndrome, unstable angina, cardiac revascularization procedure, cardiac arrest, ventricular arrhythmia, stroke, transient ischemic attack or other CV event
†History of lung cancer, breast cancer, lymphoma, skin cancer (melanoma and squamous) or other cancer
‡Infection required hospitalization or IV treatment
COPD=chronic obstructive pulmonary disease; csDMARD=conventional synthetic DMARD; CV=cardiovascular; ILD=interstitial lung disease; mHAQ=modified HAQ; n/m=number of patients by total number of patients in the analysis; sSS=secondary Sjögren's syndrome; TNFi=TNF inhibitor; tsDMARD=targeted synthetic DMARD

- There were fewer patients with RA and sSS in full-time employment and more patients registered as disabled or retired compared with patients with RA only.
- Patients with RA and sSS experienced a higher incidence of co-morbidities (particularly hypertension, cardiovascular disease and malignancies), erosive disease and subcutaneous nodules than did patients with RA only.
  - Patients with RA and sSS experienced double the incidence of serious infections requiring hospitalization or IV treatment than patients with RA only.
- Patients with RA and sSS were more likely to be seropositive (cyclic citrullinated peptide positive, RF+ and double positive) and have a higher mean CDAI score compared with patients with RA only.
- Patients with RA and sSS were more likely to be using non-TNFi biologic/targeted synthetic (ts)DMARDs and abatacept compared with patients with RA only.
  - Additionally, they were more likely to have previously used more than one conventional synthetic DMARD and biologics/tsDMARDs.
- Compared with patients with RA only, patients with RA and sSS were more likely to have higher mean modified HAQ,[7] patient pain and Patient Global Assessment scores.
  - More patients with RA and sSS experienced morning stiffness.
- Patients with RA and sSS were more likely to report difficulties with walking, self-care, usual activities, pain and discomfort, and anxiety and depression than patients with RA only (Figure 3).

Rate of prevalence of SSS in patients with RA

- The unadjusted overall rate for the prevalence of sSS in patients with RA was 0.30 (95% CI: 0.29, 0.31).
- The unadjusted rate of sSS increased with RA disease duration (Figure 4).

Figure 4. Unadjusted Prevalence of sSS in Patients with RA by Duration of Disease*

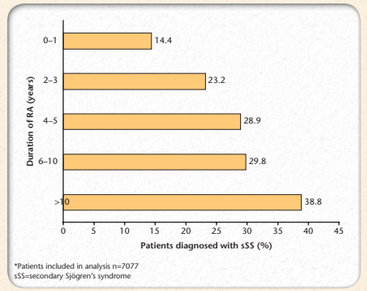
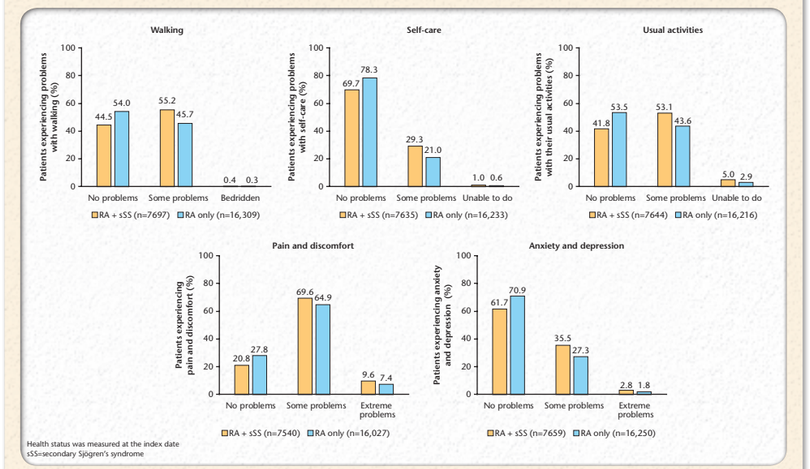


Figure 3. Health Status as Measured by the Five Domains of the EQ-5D Questionnaire: Mobility, Self-Care, Usual Activities, Pain/Discomfort and Anxiety/Depression



Conclusions

- This study suggests that patients with sSS and RA have a higher disease burden than those with RA alone.
  - sSS was associated with seropositivity, more severe RA, more health-related difficulties such as pain and anxiety, a lower level of employment and a greater incidence of other extra-articular manifestations and co-morbidities.
- A higher prevalence of sSS was observed as the duration of RA increased.
- A large patient population was followed during this observational study; however, additional studies are warranted to further understand the full burden of sSS in patients with RA.

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Disclosures

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