Objectives: We describe and analyze *Listeria*-related demographics and clinical features to determine the predisposing conditions for severe infections in an immunodepressed population by rheumatic diseases.

Methods: Descriptive Observational Study. A retrospective analysis of 143 patients were performed affected by listeriosis, with positive isolation of *Listeria monocytogenes* from blood, treated in the H.U. Virgen del Rocío (Seville- Spain) between 2003-2019. Of them 9 were rheumatic patients. The type of clinical manifestation was analyzed, paying special attention to the characteristics associated with patients with neurological complications or unfavorable outcome (death and / or abortion in pregnant women), immunosuppression (associated with cancer or rheumatic disease) was assessed as independent variables, chronic diseases (Hypertension, Diabetes Mellitus, dyslipidemia, COPD, Renal Insufficiency and Ischemic Heart Disease) as well as other baseline characteristics of the patient. (age, sex, pregnancy) and their toxic habits (tobacco and alcohol).

Results: The sample includes a similar proportion of men (70 cases) and women (73 cases), of all ages. Of the total patients, most (85%) required hospital admission, with a duration median (non-parametric data) of 11 days. 78% of the cases admitted showed a favorable evolution. However, 15.4% resulted in death and 5.6% in abortion. This percentage of abortions represented 29% of the total pregnant women admitted. Of all the patients admitted, a third (33%) were immunocompromised, including patients with cancer (79%) and rheumatic diseases (21%). Include lupus (33%), RA (22%), APs (11%), polymyalgia rheumatica (11%), panuveitis (11%) and ANCA vasculitis MPO specificity (11%). All of them required admission although the majority showed a favorable evolution, except one of the patient, which resulted in death, in which case in addition to lupus he presented with prostate cancer. Regarding the baseline treatment of these patients, 7 underwent treatment with synthetic DMARDs and three with biological DMARDs (1 Adalimumab, 1 Infliximab and 1 Rituximab). As a result of the *Listeria* infection, most of them had fever or digestive symptoms and two of them experienced neurological manifestations (meningoencephalitis). None of these last two (with lupus and RA) had biological DMARDs.

Conclusion: Listeriosis is an uncommon but potentially serious infection usually in older people, pregnant women and immunocompromised patients. In our sample, 33% of the patients were immunocompromised. Of the 9 patients affected by *Listeria* with rheumatic disease we find a death for meningoencephalitis. Given the impact of this infection in immunosuppressed patients should pay attention in our patients with fever and neurological manifestations.

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Rheumatoid arthritis - comorbidity and clinical aspects - I

OP0098

POLYPHARMACY IS ASSOCIATED WITH A POORER TREATMENT RESPONSE AND INCREASED RISK OF ADVERSE EVENTS IN EARLY RHEUMATOID ARTHRITIS

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Background: Polypharmacy is steadily increasing in patients with rheumatoid arthritis (RA). They may interfere with treatment response and the occurrence of serious adverse events. Medications taken by a patient may reflect active comorbidities, whereas comorbidity indices usually used include past or current diseases.

Objectives: To evaluate whether polypharmacy is associated with treatment response and adverse events in an early RA cohort and to establish whether polypharmacy could represent a substitute of comorbidities.

Methods: We used data from the French cohort ESPOIR, including 813 patients with early onset arthritis. Patients included in the current study had to start their first disease modifying anti-rheumatic drug (DMARD) within 24 months of inclusion in the cohort. Disease activity data were collected at one, five and ten years from the initiation of the first DMARD. For each patient, treatments were collected at baseline and at five years. Medications count included all specialties other than background RA therapy,

analgesics/NSAIDs and topicals. Polypharmacy was defined as a categorical variable based on the median and tertiles of distribution in the cohort. Treatment response was assessed by achieving DAS28 ESR remission (REM) at 1 year, 5 years and 10 years from the initiation of the first DMARD. The occurrence of severe adverse events (SAE) was measured by the occurrence of severe infection, hospitalization, or death during the 10-year follow-up. The association between patient's characteristics and achievement of REM and occurrence of SAE were tested in univariate analysis. A logistic regression model was used to evaluate associations between polypharmacy and REM at 1 year, 5 years and 10 years (we used baseline polypharmacy for the 1-year analysis and five years polypharmacy for the 5- and 10-years analyses). Multivariate adjustment was made for age, sex, BMI, duration of disease, initial DAS28 ESR, initial HAQ, smoking status, rheumatic disease comorbidity index (RDCI).

Results: The proportion of patients who achieved REM one year after the initiation of the first DMARD was 32.1% in the polypharmacy according to the median group (patients taken ≥ 2 medication) versus 67.9% in the non-polypharmacy group ($p=0.07$). At 5 years after the first DMARD, the proportion of patients with REM was 45.0% in the polypharmacy group versus 56.3% in the non-polypharmacy group ($p=0.03$). At 10 years the proportion of patients with REM was 32.5% in the polypharmacy group versus 67.5% ($p=0.06$). Patients who take greater or equal to 2 medications had a 40% lower probability of achieving REM (OR = 0.60 [0.38-0.94] $p = 0.03$) at 5 years from the first DMARD (if RDCI index was not included in the model). At 10 years, patients receiving multiple medications had a 43% lower probability of achieving REM (OR = 0.57 [0.34-0.94] $p = 0.02$). SAE incidence was 61 per 1000 patient-years. For patients who developed SAE all causes 71.4% where in the polypharmacy group versus 57.8% were in the non-polypharmacy group ($p = 0.03$; univariate analysis). These results are no longer significant after adjustment for comorbidities indices.

Conclusion: In this early RA cohort, polypharmacy is associated with a poorer treatment response and increased risk of adverse events. Polypharmacy may represent a good substitute of comorbidities for epidemiological studies.

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OP0099

EPIDEMIOLOGY AND MORTALITY OF RA-ASSOCIATED INTERSTITIAL LUNG DISEASE: DATA FROM A FRENCH ADMINISTRATIVE HEALTHCARE DATABASE

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Background: Interstitial lung disease (ILD) is a common extra-articular manifestation of RA and is associated with increased morbidity and mortality.¹⁻³ Studies have shown variability in the prevalence and mortality rate of patients with RA-associated ILD (RA-ILD).⁴ Further studies are needed to better characterise the epidemiology of RA-ILD.

Objectives: To estimate the prevalence and incidence of clinical RA-ILD in France and to compare mortality rates between patients with RA-ILD and patients with RA without clinical ILD (RA-noILD).

Methods: A historical cohort study was conducted using data from the French national claims database (SNDS) between 1 January 2013 and 31 December 2018. Adults with an RA diagnosis (International Classification of Diseases, Tenth revision [ICD-10] codes M05, M06.0, M06.8 and M06.9) and ≥ 2 distinct dates of DMARD delivery were included. Onset of RA was defined as the first date of occurrence between RA codes and the first known DMARD reimbursement. ILD diagnosis was defined as having ICD-10 code J84 and ≥ 1 computed tomography scan after, but within 1 year of, the first date of ILD occurrence. All patients had ≥ 6 months' reimbursement after RA-ILD onset. The prevalence and incidence (2014–2018) of RA-ILD were estimated. The mortality rate was calculated, comparing patients with RA-ILD and patients with RA-noILD, matched 1:1 for age, sex, age at RA-ILD onset, duration of RA and presence of diabetes, arterial disease, dyslipidaemia and cardiac disease. Mortality was compared between patients with RA with and without clinical ILD in the matched population using Cox proportional hazards regression.

Results: The prevalence of RA-ILD was 6.52 per 100,000 inhabitants (incidence=1.04 per 100,000 person-years). Of the 173,138 patients with RA included in the overall population, 4330 (2.5%) had clinical ILD. Patients with RA-ILD were older at RA diagnosis (mean [SD] age: 63.3 [13.7] vs 56.9 [15.2] years) and were more likely to be male (39.8% vs 27.0%) compared with patients with RA-noILD. Patients with RA-ILD were more likely to have cardiac disease (84.9% vs 63.1%), arterial disease (38.0% vs 19.3%), diabetes (21.4% vs 12.5%) and dyslipidaemia (44.7% vs 32.9%) compared with those with RA-noILD. The mortality rate in patients with clinical RA-ILD was 1.71 per 100,000 inhabitants. The mortality rate increased according to age (0.28 per 100,000 inhabitants for patients aged <65 years, 4.60 per 100,000 inhabitants for patients aged 65–74 years and 11.4 per 100,000 inhabitants for patients aged ≥ 75 years). After matching, the adjusted mortality risk was three times higher (HR [95% CI]: 3.1 [3.1, 3.9]) in patients with RA-ILD than in those with RA-noILD (Figure 1).

Conclusion: This is the largest epidemiological study of RA-ILD in France. The prevalence of clinical RA-ILD in this population was towards the lower end of

Figure 1. Mortality risk in patients with RA with versus without ILD in the matched population*

*Patients with RA-ILD and RA-noILD were matched for age, sex, age at RA-ILD onset, duration of RA and presence of diabetes, arterial disease, dyslipidaemia and cardiac disease. HR=hazard ratio; ILD=interstitial lung disease; RA-ILD=RA-associated interstitial lung disease; RA-noILD=RA without ILD.

previous estimates (1–58%),³ possibly due to under-reporting of claims data. However, the occurrence of clinical ILD was associated with a strong increase in mortality compared with patients with RA-noILD.

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OP0100-HPR THE INFLUENCE OF COMORBIDITY ON MORTALITY IN PATIENTS WITH RHEUMATOID ARTHRITIS 1980-2015: A LONGITUDINAL POPULATION-BASED STUDY IN WESTERN AUSTRALIA

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Background: Rheumatoid arthritis (RA) contributes to excess morbidity and mortality in RA patients compared with the general population (1). In Australia, there is a paucity of published literature on the mortality and morbidity rates in RA patients, despite the significant morbidity and mortality burden on health care costs due to RA. Linked data is the preferred method to estimate morbidity and mortality outcomes as they provide the best case-ascertainment.

Objectives: To describe temporal changes in mortality rates for patients with RA in relation to comorbidity accrual from 1980-2015 in Western Australia (WA).

Methods: Using population-level linked data from WA health administrative datasets (hospital morbidity, emergency department and death data) we followed 17,125 RA patients (ICD-10-AM M05.00–M06.99, ICD-9-CM 714) from 1980-2015. Comorbidity was ascertained using the Charlson Comorbidity Index (CCI). Mortality rate ratios (MRR) were calculated per decade between the RA cohort and the WA general population by direct age standardisation method, while temporal trends of comorbidities and in-hospital mortality were estimated per 1000 hospital separations in three consecutive decades.

Results: During 356,069 patient-years, a total of 8955 (52%) deaths occurred in the RA cohort. The leading causes of deaths were cardiovascular diseases 2386 (26.6%), cancer 1511 (16.8%), rheumatic diseases 519 (5.8%), chronic pulmonary disease 491 (5.5%), dementia 269 (3.0%) and diabetes 235 (2.6%). The highest prevalence of comorbidity (688.6 per 1000 separations) was in the period 1991-2000 following a 1.3% average annual increase since 1980. In-hospital mortality rate was also highest (26.7 deaths per 1000 separations) in the same

Table 1. Mortality rates observed among patients with rheumatoid arthritis, based on Charlson Comorbidity Index, per 1000 hospital separations, Western Australia hospitals (1980-2015).

Time period	1980-1990	1991-2000	2001-2010	2011-2015
Total number of hospital separations	82099	107731	185398	80410
Number of deaths	1620	2875	3183	1277
CCI score				
0	481 (29.7%)	1024 (35.6%)	1197 (37.6%)	565 (44.2%)
1	838 (51.7%)	1271 (44.2%)	1358 (42.6%)	467 (36.6%)
2	273 (16.8%)	518 (18%)	581 (18.3%)	232 (18.2%)
3	1 (0.1%)	4 (0.2%)	2 (0.1%)	0 (0%)
6	27 (1.7%)	58 (2%)	45 (1.4%)	13 (1%)
In-hospital RA mortality per 1000 hospital separation	19.7	26.7	17.2	15.9
Percentage of average annual change per annum in the period	0	3.8	-4.8	-2.6
Percentage of average annual change since 1980	0	1.5	-1.4	-0.2

CCI= Charlson Comorbidity Index.