Objectives: To investigate factors associated with the development of sepsis in patients with IMIDs using the Taiwanese National Health Insurance Research Database (NHIRD).

Methods: We identified all biologic-naïve patients with RA, AS, PsO, PsA, or CD/UC from the claim data via the NHIRD who started their first anti-TNF- α agent (etanercept (ETN), adalimumab (ADA) or golimumab (GOL)) between 2003 and 2017 as study subjects. The index date was the first date of anti-TNF- α prescription. Sepsis was defined based on the sepsis-3 definition. We identified sepsis patients using a validated ICD-9-CM coding system proposed by Angus et al, in which a diagnosis of bacterial/fungal infection with one or more acute organ dysfunction is required to define an episode of sepsis. All study subjects were followed up till the date of first hospitalization due to sepsis, 90 days after the last date of anti-TNF- α prescription, withdrawal from NHIRD or death, whichever came first. We used a Cox regression analysis to assess the associations of covariates with the risk of sepsis shown as hazard ratios (HRs) with 95% confidence interval (CIs). Covariates included anti-TNF- α agent, IMID, age, sex, insured amount, level of urbanization, disease duration, Charlson comorbidity index (CCI), a history of prior hospitalization due to sepsis within 3 months before the index date and medication use within 12 months before the index date and during the follow-up period.

Results: We identified 18105 biologic-naïve patients with IMIDs, including 8123 ETN users, 7623 ADA users and 2359 GOL users. The incidence rates (IRs) of sepsis in patients treated with ETN, ADA and GOL were 1080, 1181, and 617 per 10^5 years respectively. Multivariable regression analyses showed that factors associated with an increased risk of sepsis were use of ADA (ETN as reference: HR, 1.21; 95% CI, 1.02–1.42), male (HR, 1.24; 95% CI, 1.04–1.48), age (HR, 1.06; 95% CI, 1.05–1.07), CD/UC (HR, 2.35; 95% CI, 1.57–3.53), CCI (HR, 1.30; 95% CI, 1.23–1.38), prior sepsis (HR, 2.42; 95% CI, 1.78–3.29), prior use of sulfasalazine (HR, 1.25, 95% CI, 1.00–1.55), lower levels of urbanization (level III: HR, 1.37; 95% CI, 1.06–1.77; level IV: HR, 1.68, 95% CI, 1.35–2.10). Factors associated with a decreased risk of sepsis were use of GOL (ETN as reference: HR, 0.59; 95% CI, 0.39–0.84), use of methotrexate (HR, 0.78; 95% CI, 0.65–1.00), and higher insured amount (reference: $\leq$ 15480 NTD; 15480–28800 NTD: HR, 0.83; 95% CI, 0.68–0.99; 28800–45800 NTD: HR, 0.58; 95% CI, 0.45–0.74; $>$ 45800 NTD: HR, 0.33; 95% CI, 0.21–0.54).

Conclusion: Our study revealed that among biologic-naïve IMID patients initiating anti-TNF- α treatment, use of ADA, age, sex, CD/UC, CCI, prior sepsis, prior use of sulfasalazine and lower levels of urbanization were associated with an increased risk of sepsis, while use of GOL, use of methotrexate, and higher insured amount were associated with a decreased risk of sepsis.

Disclosure of Interests: BO-CHUEN HSU: None declared, Hsin-Hua Chen: None declared, Ching-Heng Lin: None declared, Yi-Ming Chen: None declared, Kuo-Lung Lai: None declared, Der-Yuan Chen: None declared, Wen-Nan Huang: None declared, Yi-Hsing Chen Grant/research support from: Taiwan Ministry of Science and Technology, Taiwan Department of Health, Taichung Veterans General Hospital, National Yang-Ming University, GSK, Pfizer, BMS., Consultant of: Pfizer, Novartis, Abbvie, Johnson & Johnson, BMS, Roche, Lilly, GSK, AstraZeneca, Sanofi, MSD, Guigai, Astellas, Inova Diagnostics, UCB, Agnitio Science Technology, United Biopharma, Thermo Fisher, Gilead., Paid instructor for: Pfizer, Novartis, Johnson & Johnson, Roche, Lilly, AstraZeneca, Sanofi, Astellas, Agnitio Science Technology, United Biopharma., Speakers bureau: Pfizer, Novartis, Abbvie, Johnson & Johnson, BMS, Roche, Lilly, GSK, AstraZeneca, Sanofi, MSD, Guigai, Astellas, Inova Diagnostics, UCB, Agnitio Science Technology, United Biopharma, Thermo Fisher, Gilead.

DOI: 10.1136/annrheumdis-2020-eular.1601

OP0070

THE RISK OF PRECANCEROUS LESIONS OF THE BREAST AND CERVIX UTERI IN PATIENTS WITH AUTOIMMUNE RHEUMATIC DISEASES: A NATIONWIDE POPULATION STUDY IN TAIWAN

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Background: Precancerous lesions are pathologically atypical tissues which share part of abnormal features of cancerous tissue under microscopic

examination but lack the ability of uninhibited growth and distant metastasis. Some of the measures to screen for precancerous tissues have gained popularity because supporting evidence indicates the beneficial effects on cancer incidence and mortality [1, 2]. However, the roles of these screenings and the risk of precancerous lesions in patients with autoimmune diseases have not been clarified. We aim to exam the risk of precancerous lesions among different autoimmune diseases.

Objectives: To determine whether the Taiwanese autoimmune rheumatic diseases (ARDs) patients have a higher risk of precancerous lesions of the breast and cervix uteri.

Methods: The Taiwan national breast cancer screening program provides biennially mammography for women above 45 years old or with a positive family history of breast cancer above 40 years old. The national cervical cancer screening program provides Pap smear test once every three years for women age above 30 years old. Using the National Health Insurance (NHI) database, we identified a cohort of 6 different groups of ARDs patients in Taiwan between 2004 and 2014. We linked the data from the national screening program of breast and cervical cancer and the NHI database to estimate the standardized incidence ratios (SIRs) of precancerous lesions (atypical lobular and ductal hyperplasia of the breast, carcinoma in situ of the breast, cervical intraepithelial neoplasia 1 to 3 of cervix uteri and carcinoma in situ of cervix uteri) in patients with ARDs compared with the general population.

Results: From 2004-2014, we identified 64,904 patients with autoimmune diseases. Table 1 shows the number of patients receiving the screening programs. The standardized incidence ratio (SIR) of precancerous lesion of the breast was elevated in patients with rheumatoid arthritis (SIR, 2.21; 95% CI, 1.21-3.46) and Sjögren syndrome (SIR, 5.77; 95% CI, 2.63-9.85). The incidence of precancerous lesion of cervix uteri was elevated in patients with surveyed ARDs compared with the normal population, particularly for patients with systemic lupus erythematosus (SIR 28.94; 95% CI, 24.52-33.70) and inflammatory bowel disease (SIR, 27.50; 95% CI, 7.40-56.32) (Table 2).

Table 2 Standardized incidence ratio (SIR) of precancerous lesion of the breast and cervix uteri in patients with autoimmune rheumatic diseases

	Precancerous lesion of Breast	Precancerous lesion of Cervix
	SIR (95% CI)	SIR (95% CI)
Rheumatoid arthritis	2.21 (1.21-3.46)	5.32 (4.25-6.50)
Systemic lupus erythematosus	1.34 (0.27-2.93)	28.94 (24.52-33.70)
Sjögren syndrome	5.77 (2.63-9.85)	8.32 (5.72-11.34)
Systemic sclerosis	6.45 (0.72-15.54)	7.93 (2.90-14.80)
Vasculitis	0.00	7.68 (1.54-16.83)
Inflammatory bowel diseases	0.00	27.50 (7.40-56.32)

Conclusion: Precancerous lesions in the breast and cervix uteri were higher in female patients with ARDs and they should receive stringent screening program.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.3206

OP0071

PREDICTING PERSISTENT HIGH-DOSE OPIOID USE AFTER TOTAL KNEE REPLACEMENT

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Table 1 Breast screen and Pap smear test in patients with autoimmune rheumatic diseases

	Rheumatoid arthritis (n=28289)	Systemic lupus erythematosus (n=11609)	Sjögren syndrome (n=17647)	Systemic sclerosis (n=1489)	Vasculitis (n=3050)	Inflammatory bowel disease (n=2820)
Female patients	21199	9808	15785	1043	1225	1034
Breast screening (n, %)	6296 (29.70%)	1382 (14.09%)	4737 (30.01%)	276 (26.46%)	67 (5.47%)	215 (20.79%)
Pap smear (n, %)	12827 (60.51%)	6495 (66.22%)	9961 (63.10%)	670 (64.24%)	1114 (90.94%)	665 (64.31%)