Methods: We extracted population-based longitudinally linked administrative health data for patients 16 years or older with a first diagnostic code of 711.xx (ICD9-CM) and M00.xx (ICD10-AM) in WA in the period 1990-2010. Annual incidence rates (IR), risk factors during 14.5 years lookback and outcomes including standardized mortality rates (SMR) during 10.1 years follow-up are reported.

Results: A total of 2,777 patients (67% male, mean age 49.8 ± 20.5) received a first diagnostic code for PyA. The AIR increased from 4.5 to 11.8 /100,000 over time as did age at onset (45.1 to 55.4 years) and proportion of female patients (23 to 36%). There was no seasonal variation in PyA incidence but a higher rate of predisposing comorbidities in female patients. Knees (33.6%) and hands (22%) were most frequently affected with 28.4 % of positive cultures not due to Gr+ cocci. Mean hospital stay was 8 days, 30-day readmittance and mortality rate was 12.8% and 3.1% respectively. During ten years follow-up serious infections (43%), new diagnosis of osteoarthritis (20%), joint replacement (10.8%), osteomyelitis (6%), and crystal arthropathy (6.3%) were the most common morbidities. SMR were increased across all age and gender categories (Table) but highest in females aged 16-40 (SMR 25.9).

Table 1. Mortality rates (MR) per 1000 person years in patients with pyogenic arthritis compared with age (at death) and gender matched categories from the general population by standardised mortality rate (SMR)

Gender	Age	Deaths	Person years	MR PyA	MR Gen pop *	SMR
Male	16-40	27	4015	6.72	0.892	7.53
	40-59	80	7106	11.25	2.972	3.78
	>60	331	7366	44.93	21.55	2.08
	All	438	18487	23.69	5.820	4.07
Female	16-40	11	1026	10.72	0.41	25.95
	40-59	40	2769	14.44	1.75	8.21
	>60	208	4088	50.88	24.20	2.10
	All	259	7883	32.85	5.50	5.96

* Based on WA death data from Australian Bureau of statistics in 2011

Conclusion: The incidence of PyA has increased significantly between 1990 and 2010 in WA. PyA associates with a 3% in-hospital mortality rate and significant late bone and joint morbidity including osteomyelitis. PyA associated with excess mortality across age and gender categories, most markedly in younger female patients.

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OP0096

EXPOSURE TO DENGUE INFECTION DO NOT RAISE RISK OF RHEUMATOID ARTHRITIS: FINDINGS FROM THE MALAYSIAN EPIDEMIOLOGICAL INVESTIGATION OF RHEUMATOID ARTHRITIS (MYEIRA) CASE-CONTROL STUDY

L. K. Tan^{1,2}, C. L. Too^{1,10}, A. F. Nurul-Ain¹, A. A. Siti-Aisyah¹, S. Wahinuddin², A. Osman², I. S. Lau³, H. Hussein⁴, N. S. Shahril⁴, S. C. Gun⁵, E. Mageswaren⁴, M. S. Mohamed Said⁶, A. Mohd. Mokhtar⁷, R. Azmillah³, M. Othman⁸, L. Alfredsson⁹, L. Klareskog¹⁰, M. Shahnaz¹¹, L. Padyukov¹⁰. ¹Allergy and Immunology Research Center, Institute for Medical Research, Ministry of Health Malaysia, Selangor, Malaysia; ²Faculty of Medicine, Universiti Kuala Lumpur Royal College of Medicine Perak, Perak, Malaysia; ³Department of Medicine, Selayang Hospital, Selangor, Malaysia; ⁴Department of Medicine, Putrajaya Hospital, Putrajaya, Malaysia; ⁵Department of Medicine, Tuan Ku Ja'afar Hospital, Negeri Sembilan, Malaysia; ⁶Faculty of Medicine, University Kebangsaan Malaysia Medical Center, Kuala Lumpur, Malaysia; ⁷Department of Medicine, Tengku Ampuan Afzan Hospital, Pahang, Malaysia; ⁸Department of Medicine, Raja Permaisuri Bainun Hospital, Perak, Malaysia; ⁹Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Malaysia; ¹⁰Department of Medicine, Rheumatology Unit, Karolinska Institutet and Karolinska University Hospital, Stockholm, Sweden; ¹¹Ministry of Health Malaysia, Federal Government Administrative Center, Putrajaya, Malaysia

Background: Dengue infection is associated with joints pain mimicking disease onset symptom of rheumatoid arthritis (RA). However, there is lack of epidemiological studies on exposure to dengue infection and risk of future RA.

Objectives: We investigated the relationship between exposure to dengue infection and risk of developing different subsets of RA, defined by the presence

of anti-citrullinated peptide antibody (ACPA) in the multi-ethnic Malaysian population.

Methods: Serum samples from 1,235 RA cases (i.e. 516 Malay, 254 Chinese, 405 Indians and 60 others/mixed-ethnicity) and 1,624 epidemiological matched population-based controls (i.e. 1,023 Malay, 208 Chinese, 297 Indians and 96 others/mixed-ethnicity) were assayed for presence of dengue IgG antibody using World Health Organization recommended ELISA kits. Positive results of dengue IgG antibodies indicates previous exposure to dengue infection(s). We performed chi-square and Mann-Whitney U analysis to determine the association of ever-exposed dengue infection with ACPA-positive/ACPA-negative RA and to investigate the antibody frequency and levels among the studied populations.

Results: We observed high occurrence of dengue IgG antibody in the overall RA cases (79.7%) and matched controls (77.3%), with no significant differences detected between the ACPA subsets of RA. Ethnicity stratification analysis revealed a decrease risk of developing ACPA-positive RA in the Indian patients with positive dengue IgG antibody (OR=0.59, 95% CI=0.37-0.94, p=0.03), and in particular patients with elevated level of dengue IgG antibody (OR=0.44, 95% CI=0.25-0.78, p<0.05). On the other hand, the significant decrease mean levels of dengue IgG antibody were observed in the ACPA-positive RA subset for all three major ethnic groups (i.e. Malay, p<0.0001, Chinese, p<0.01 and Indian<0.05) (Figure 1). No association was observed between presence of dengue IgG antibody and ACPA-negative RA subset.

Figure 1. Comparison of mean dengue IgG antibody level between ever-exposed dengue infection RA cases, stratified by ACPA status. Comparison of median dengue IgG antibody level between the ever-exposed dengue infection ACPA-positive RA and normal controls in the four ethnic groups. The red line indicates the mean level of dengue IgG antibody level

Conclusion: Our findings demonstrated that exposure to dengue infection do not increase the risk of developing future RA in the multi-ethnic Malaysian population. The inverse associations observed in the Indian ethnic group are in line with the other studies investigating exposure to viral infection and risk of RA.

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OP0097

LISTERIA MONOCYTOGENES. DESCRIPTION AND ANALYSIS OF CASES IN AN IMMUNODEPRESSED POPULATION BY RHEUMATIC DISEASES

M. Lisbona Muñoz¹, P. León¹, G. Lopez Antequera¹, E. Rubio-Romero¹. ¹H.U. Virgen del Rocío, Rheumatology, Seville, Spain

Background: *Listeria monocytogenes* is a gram-positive bacteria that cause the invasive disease listeriosis. Human clinical syndromes are infrequent, mostly appearing in immunosuppressed individuals, newborns, the elderly, pregnant women, and occasionally healthy patients.