group, 28 (24-32) years. The mean pregnancy among both groups was 2 per patient. The most common rheumatic diseases in the study group were Rheumatoid arthritis (39.1%), Antiphospholipid Syndrome (31.3%) and Generalized Lupus Erythematosus (20%). The average visit to the Rheumatologist during pregnancy in the study group was 3.2. The visits started at a mean of 15.2+7.6 weeks of gestational age.

Thirty three point nine percent (33.9%) of the study group presented complications during pregnancy (vs 20.9%). Among the patients who presented complications, 9 of them (7.8%) had more than one complication during pregnancy. There were 44.3% cesarean deliveries in the study group compared with 22.6% in the control group, OR 2.1 (1.5-4.8) $p=0.001$. There were 16% of preterm deliveries between 34-37 weeks of gestational age in the study group compared to 10% in the control group, OR 2.2 (0.9-4.8) $p=0.063$. Preterm deliveries before 34 weeks of gestational age in the study group were 18% compared to 3% in the control group, OR 6.9 (2.3-20.9) $p=0.001$. There were 6 cases of spontaneous abortion in the study group and none in the control group. Thirty four percent (34%) of cases with low birth weight (<2.5kg) were found in the study group compared to 14% in the control group, OR 3.4 (1.6-6.1) $p=0.001$.

Conclusion: The most common rheumatic diseases among pregnant patients were Rheumatoid Arthritis, Antiphospholipid syndrome and Generalized Lupus Erythematosus.

Having a rheumatic disease was more associated with cesarean delivery, preterm delivery between 34 and 37 weeks of gestational age, and low birth weight.

References:

- [1] M. Gayed, C. Gordon. Pregnancy and rheumatic diseases. *Rheumatology* 2007;46:1634-1640.
- [2] Y A de Man, et al. *Annals of Rheumatic Diseases*. 2008. 10.1136

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.5051

AB1219

ADHERENCE TO THE MEDITERRANEAN DIET IN PATIENTS WITH RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS, MULTICENTER STUDY

L. Morales-Ivorra¹, D. Grados Canovas¹, A. Rozadilla², J. M. Nolla², B. Busque¹, J. Bové¹, D. Madrid¹, L. Valencia Muntalà², M. Romera-Baurés². ¹Hospital Igualada, Igualada, Spain; ²Hospital Universitari de Bellvitge, Hospitalet de Llobregat, Spain

Background: The Mediterranean diet (MD) has proven beneficial in a large number of chronic diseases. The relationship between the MD and rheumatic diseases is complex and there are few studies that have studied this relationship. These show that there could be a positive association between adherence to the Mediterranean diet (MD-A) and a lower prevalence of OA. In the case of RA, it has been proposed that the MD could reduce pain and improve functionality.

Objectives: To determine the MD-A diet of patients with RA and OA, and compare it with that of healthy subjects.

Methods: Multicenter, cross-sectional, observational study. Patients who attend the rheumatology outpatient and meet the ACR / EULAR 2010 criteria for RA and ACR for OA of hands, knees or hips are included in the study. The healthy are recruited among health personnel and companions of patients who do not live in the same address as the patient. The study is being carried out in the rheumatology consultations of two Hospitals and an outpatient center with specialized care. All participants have answered a survey of 14 questions (MEDAS-14), based on the Predimed study, which assesses MD-A. Fisher's exact test and the Mann-Whitney U test have been used to assess statistical significance. The study was approved by the Clinical Ethics and Research Committee of the centers.

Results: There have been 279 surveys (132 RA, 82 OA and 65 healthy). The MD-A in patients with RA is lower than in healthy (6.26 vs. 7.15, $p<0.05$). Patients with OA also have less adherence to the MD than healthy ones but this difference is not statistically significant (6.85 vs. 7.15, $p>0.05$). The proportion of patients with RA and OA who consume 2 or more servings of vegetables daily is lower than that of healthy subjects (RA 20%; OA 13% and healthy 34%, $p<0.05$). The proportion of RA and OA that eats more than 3 weekly servings of nuts compared to healthy is also lower (RA 21%, OA 17%, healthy 35% $p<0.05$). The proportion of RA and OA that consume less than 1 serving of butter is lower than that of healthy (RA 86%; OA 82% and 98%, $p<0.05$). The proportion of RA that consumes 3 or more servings of legumes per week is lower than healthy (23% vs 40%, $p<0.05$). These differences between the OA group and healthy are not appreciated. The consumption of more than three pieces of fruit daily is more frequent in OA than in healthy ones (45% vs 26%, $p<0.05$).

Conclusion: The MD-A diet quantified by MEDAS-14 in subjects with RA and OA is lower than in healthy subjects, being significant in RA. Patients with RA and OA eat less vegetables and nuts but the intake of butter is higher. The RA group consumes less legumes than healthy ones. Patients with OA eat more fruit than healthy ones, this is the only food in the MD valued by MEDAS-14 that is consumed in a lower proportion in healthy ones. Longitudinal intervention studies are necessary to assess whether the differences observed in this study have any causal relationship.

References:

- [1] Estruch R, Ros E, Salas-Salvadó J, Covas M-I, Corella D, Arós F, et al. Primary prevention of cardiovascular disease with a Mediterranean diet. *N Engl J Med*. 2013;368(14):1279-90.
- [2] Trichopoulos A, Martínez-González MA, Tong TY, Forouhi NG, Khandelwal S, Prabhakaran D, et al. Definitions and potential health benefits of the Mediterranean diet: views from experts around the world. *BMC Med*. 2014;12:112.
- [3] Morales-Ivorra I, Romera-Baures M, Roman-Viñas B, Serra-Majem L. Osteoarthritis and the Mediterranean Diet: A Systematic Review. *Nutrients*. 2018;10(8) pii: E1030. doi: 10.3390/nu10081030.
- [4] Forsyth C, Kouvari M, D'Cunha NM, Georgousopoulou EN, Panagiotakos DB, Mellor DD, et al. The effects of the Mediterranean diet on rheumatoid arthritis prevention and treatment: a systematic review of human prospective studies. *Rheumatol Int*. 2018 May;38(5):737-47.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.3336

AB1220

DO ANTIBODIES HAVE DIFFERENTIAL EFFECT ON RADIOGRAPHIC PROGRESSION IN RA?

A. Minocha¹, S. Kukran¹, P. Yee¹, M. K. Nisar¹. ¹Luton and Dunstable University Hospital, Luton, United Kingdom

Background: The presence of bony erosions in patients with RA is a marker of disease severity and once present they are largely irreversible. Previous studies have shown that those who are RF positive have more erosions than those who are RF negative. Likewise, ACPA is associated with increased bone loss and rapid erosive changes.

Objectives: The aim of our study was to determine which of these two antibodies is more strongly associated with erosive disease and whether being double +ve confers higher risk than single positive antibody status.

Methods: A retrospective study of 774 patients diagnosed with RA at a large university teaching hospital during the period of January 1981 and December 2018. Clinical records were reviewed to determine antibody status, date of diagnosis, duration of symptoms, DAS-28, age, ethnicity and whether the 1987 Rheumatoid Arthritis criteria was met. The presence of radiographic erosions at diagnosis were determined from reports of plain film radiographs of hands and feet of all patients. Chi square model was utilised to ascertain if there was a significant relationship among the four groups. Mann Whitney two-tailed U test was employed to determine the significance of relationship between the double negative group and other arms for all variables including disease duration and delta change in DAS28. Significance level was predefined at 0.05.

Results: All patients fulfilled the 2010 ACR/EULAR criteria. 240 (31%) patients were male and 534 (69%) were female with an age range of 17 to 90 years for the cohort. The duration of symptoms ranged for the patient cohort from 0.5 to 250 months with a median of 6 months while the duration of disease ranged from 4 to 455 months with a median of 49 months. DAS 28 ranged from 1.19 to 8.4 with a median of 4.4. 367 (47%) were positive for both RF and ACPAs, 87 (11%) were positive for RF alone, 66 (9%) were positive for ACPA alone and 254 (33%) were antibody negative. There were a total of 127 patients with erosions at the time of diagnosis. Patients in the double positive group had a significantly higher ($p=0.003$) erosion burden compared to the double negative group i.e. 21.5% in RF+/ACPA+ versus 11.0% in RF-/ACPA- group. The erosion burdens in RF+/ACPA- and RF-/ACPA+ groups were 13.7% and 12.1% respectively.

Conclusion: This is the first real world study to demonstrate the radiographic erosive burden in the RA cohort with respect to RF/ACPA status. Our results show that patients RF+/ACPA+ have nearly two-fold higher incidence of radiographic erosions than patients who are RF-/ACPA-. Patients with single antibody positivity have a trend towards higher erosive burden compared to the double antibody negative group however it's the combination of two antibodies which is strongly associated with erosive disease.

Disclosure of Interests: Amal Minocha: None declared, Sebi Kukran: None declared, Philip Yee: None declared, Muhammad Khurram Nisar Grant/research support from: Muhammad Nisar undertakes clinical trials and received support (including attendance at conferences, speaker fees and honoraria) from Roche, Chugai, MSD, Abbvie, Pfizer, BMS, Celgene, Novartis and UCB, Consultant of: Muhammad Nisar undertakes clinical trials and received support (including attendance at conferences, speaker fees and honoraria) from Roche, Chugai, MSD, Abbvie, Pfizer, BMS, Celgene, Novartis and UCB, Speakers bureau: Muhammad Nisar undertakes clinical trials and received support (including attendance at conferences, speaker fees and honoraria) from Roche, Chugai, MSD, Abbvie, Pfizer, BMS, Celgene, Novartis and UCB

DOI: 10.1136/annrheumdis-2020-eular.1963

AB1221

POPULATION WIDE STUDY OF MORTALITY IN ANCA-ASSOCIATED VASCULITIS IN WESTERN AUSTRALIA FROM 2000 TO 2014

W. Taylor¹, W. Raymond¹, H. Keen^{2,3}, C. Inderjeeth^{3,4}, D. Preen⁵, J. Nossent^{4,6}.

¹University of Western Australia, Rheumatology Section, School of Medicine, Crawley, Australia; ²Fiona Stanley Hospital, Rheumatology, Murdoch, Australia;

³The University of Western Australia, Rheumatology Section, School of

Medicine, Crawley, Australia; ⁴Sir Charles Gairdner Hospital, Rheumatology, Nedlands, Australia; ⁵The University of Western Australia, School of Population and Global Health, Crawley, Australia; ⁶The University of Western Australia, Rheumatology Section, School of Medicine, Crawley, Australia

Background: Survival in ANCA-associated vasculitis (AAV) has improved substantially in the last fifty years, but Australian data and studies with a control population are scarce.

Objectives: The aim of this study was to compare the all-cause mortality rate between patients with AAV and matched controls in Western Australia.

Methods: A retrospective population-based cohort study conducted using the Western Australia Health Data Linkage System (WADLS) for patients with a diagnostic code for AAV (International Classification of Diseases (ICD)-10-AM M30.1, M31.3 and M31.7). We included 240 patients with AAV (mean age 57.37 ± 16.69, 48.8% males) who had a hospital admission or emergency department visit between 1 January 2000 and 31 December 2014 and 4406 controls matched for age and sex. Death details were obtained from the WA Death registry. Mortality rates per 1000 person-years (MR) for AAV patients and controls were compared by mortality rate ratios (MRRs) with 95% CI. Kaplan Meijer survival estimates were analyzed by log-rank test.

Results: During a mean follow-up of 6.58 years (3.37, 11.25) 83 incident AAV patients (34.6%) died, giving a mortality rate of 48.13 per 1000 person-years (95% CI 38.33, 59.66). This was 82% higher overall than in controls (MRR 1.82, 95% CI 1.46, 2.26, P < 0.0001), while the MRR for males with AAV was 2.28 (95% CI 1.46, 2.26; P < 0.0001) and for females 1.43 (95% CI 1.01, 2.02; P = 0.0267). Survival estimates at one (90.5%) and five years (75%) were significantly lower in AAV patients than controls.

Conclusion: Over the last fifteen years, the mortality risk for AAV patients remains significantly increased compared with matched controls and more so for male than female AAV patients. Together with the reduced one- and five-year survival rate, this indicates the need for further improvements in initial disease management in order to reduce the risk of death in AAV.

Table Mortality rates (MR) per 100 patient years and Mortality rate ratio (MRR) with 95% CI in patients with AAV and controls

AAV				Control			
	Deaths	Person years	MR (95% CI)	Deaths	Person years	MR (95% CI)	MRR (95% CI)
All	83	1724	48.1 (38.3, 59.6)	1219	46069	26.4 (25.0, 27.9)	1.82 (1.46, 2.26)
Male	49	789	62.1 (45.9, 82.0)	690	25295	28.2 (25.2, 29.3)	2.28 (1.72, 3.02)
Female	34	935	36.3 (25.1, 50.7)	529	20773	25.4 (23.3, 27.7)	1.43 (1.01, 2.02)

Figure. Kaplan Meyer Survival curves for AAV patients and controls

Acknowledgments: The authors thank the Data Custodians of the Hospital Morbidity Data Collection (HMDC), Emergency Department Data Collection (EDDC), the State Registry of Births, Deaths and Marriages, the WA Electoral Commission, and the staff at Data Linkage Branch at the Western Australian Department of Health for their assistance in provision of data. This work was supported by an unrestricted grant from the Arthritis Foundation of Western Australia. Author WDR received a PhD Scholarship in Memory of John Donald Stewart from the Arthritis Foundation of Western Australia

Disclosure of Interests: Wade Taylor: None declared, warren raymond: None declared, Helen Keen Speakers bureau: Pfizer Australia, Abbvie Australia, Charles Inderjeeth Consultant of: Linear Research Perth, David Preen: None declared, Johannes ("Hans") Nossent Speakers bureau: Janssen

DOI: 10.1136/annrheumdis-2020-eular.4051

AB1222 HOW DOES CHANGING THE TRADITIONAL P VALUE SIGNIFICANCE THRESHOLD TO .005 EFFECT OBSERVATIONAL STUDIES?

M. Oztas¹, Z. Toker Dincer¹, H. Yazici². ¹Istanbul University-Cerrahpasa, Department of Medicine, Division of Rheumatology, Istanbul, Turkey; ²Academic Hospital, Istanbul, Turkey

Background: Changing the traditional p value significance level from 0.05 to 0.005 has been proposed as one remedy to the common ill understanding and use of the p values (1-2) especially leading to poor reproducibility. It was then reported that this change would decrease the number of statistically significant primary end points in randomized controlled trials (RCT) reported during 2017 in 3 main general medical journals by 1/3 (3).

Objectives: We reasoned that the same change would affect in the right direction the significance conclusions more in observational studies (OS) in that OS generally have retrospective or cross-sectional designs, looser study inclusion criteria, many potential confounders and post – hoc analyses.

Methods: We surveyed how the 0.05 to 0.005 change would affect the OS in the same 3 journals in reference 3 for the same year (2017) and in another year (2002), included to better assess the validity of our findings. RCT were also surveyed for both time periods. Two authors (MO, ZTD) surveyed all studies. Disagreements were settled by HY. Differing from the previous study (3) we analyzed the p values as related to the primary end points only in the abstracts. The RCT and OS between January 1, 2002 – December 31, 2002 and January 1, 2017 -December 31, 2017 in N Engl J Med, Lancet and JAMA were included.

Results: Among the RCT in 2017 the decrease in the number of significant p values was quite similar between what was reported (3) and the current study (Table) (29.3 vs 30.0%) supporting the validity of the slightly different methodology we used. We were however surprised to see that changing the significance level to 0.005 did not decrease the number of significant p values in OS as compared to the RCT. In fact the percentage decrease in RCT was statistically significantly less in 2002 and numerically in 2017 (Table).

Table. OS and RCT in 2002 and 2017

	OS (2002)	RCT (2002)
Number of articles	305	211
Total number of p values related to primary outcome(s)	323	322
p<0.05 n(%)	260(80.4)	240(74.5)
p<0.005 n(%)	190(58.8)	121(37.5)
Reduction in significant number of p values* (%)	70(26.9)	119(49.5)
	OS (2017)	RTC (2017)
Number of articles	167	200
Total number of p values related to primary outcome(s)	187	257
p<0.05 n (%)	162 (86.6)	173(67.3)
p<0.005 n (%)	125(66.8%)	121(47.0%)
Reduction in significant number of p values* (%)	37(22.8)	52(30.0)

RCT:Randomized Controlled Trials

OS: Observational Studies

*Number of p values <0.05 -Number of p values<0.005/(Number of p values<0.05

Conclusion: Contrary to our initial reasoning we now realize that changing the traditional p threshold will not decrease the number of significant p values more in OS than in RCT. A limitation of our work was that we surveyed only 3, high impact factor, general medicine journals. We envisage that in studies with smaller sample sizes more commonly published in journals with lower impact factors, the proposed change in the significance threshold would be more useful. Smaller sample sizes lead to more unstable, fickle p (4) values and changing the threshold would conceivably more or less stabilize this fickleness both in OS and RCT.

References:

[1] Ioannidis JPA. The proposal to lower p value thresholds to .005. JAMA. 2018;319:1429-30.