

AB0374

**NONTUBERCULOUS MYCOBACTERIUM INFECTIONS IN PATIENTS WITH RHEUMATOID ARTHRITIS: A SINGLE-CENTRE EXPERIENCE IN JAPAN**

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**Background:**

**Objectives:** Nontuberculous mycobacteria (NTM) infection has been increasing in both general population and immunocompromised patients in Japan. This study aimed to identify the incidence and clinical characteristics of NTM infections in patients with rheumatoid arthritis (RA).

**Methods:** We performed a cross-sectional analysis and assessed 11 RA patients, who were all female, complicated with NTM (mean age, 66.6 years) at our institute. We examined Steinbrocker Stage and Class, disease duration, positivity of anti-CCP antibody and rheumatoid factor, HAQ-DI, DAS28-ESR, NTM species, radiological features, methotrexate use and dosage, prednisolone use and dosage, biological agent use, and anti-NTM therapy.

**Results:** Average values obtained with SD were as follows: age (years), 66.6 ±8.0; Steinbrocker Stage I, 1; II, 0; III, 1; and IV, 9; Class 1, 2; 2, 5; 3, 4; and 4, 0; disease duration (months), 274.9±126.9; positivity of anti-CCP antibody, 80.0%; positivity of rheumatoid factor, 100%; HAQ-DI, 1.35±0.72; DAS28-ESR, 3.61 ±0.90; detection by sputum culture, 81.8%; NTM species, *M. avium*, 8 cases and *M. intracellulare*, 3 cases; bronchiectasis, 90.9%; interstitial pneumonia, 0%; methotrexate use and dosage (mg/week); 63.6% and 7.4±3.4; prednisolone use and dosage (mg/day); 81.8% and 4.3±2.0; biological agent use, 45.5%; and anti-NTM therapy, 36.4%.

**Conclusions:** At our institute, RA patients complicated with NTM were long-standing, had high disease activities and worse HAQ-DI. In all five patients (45.5%) who were treated with biologics, 3 who had preceding episodes of NTM infection were treated with anti-NTM therapy before treatment with biologics, and the other 2 who had asymptomatic NTM infection after treatment with biologics were not treated with anti-NTM therapy thereafter. In RA patients who are treated with biologics, it is necessary to perform sputum cultures constantly to detect possible NTM infections. This finding is important in the management of RA complicated with NTM.

**Disclosure of Interest:** None declared

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AB0375

**A SYSTEMATIC LITERATURE REVIEW OF OMEGA 3 IN THE TREATMENT OF RHEUMATOID ARTHRITIS**

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**Background:** Many different elements and variations of diet in the management of rheumatoid arthritis (RA) have been studied over the years such as vegan or Mediterranean diets.

**Objectives:** This systematic literature review covers one food stuff, omega-3 polyunsaturated fats efficacy in the management of RA alongside or independent of conventional DMARD therapy.

**Methods:** A systematic review of the literature between 1966–2017 was conducted using MEDLINE, CINAHL and EMBASE databases, with key words "RA" and "omega-3" for English-language articles producing 209 hits. We then refined to publications within the last 10 years, giving 96 results. Only including clinical trials gave 12 hits pertaining to 8 trials.

**Results:** The table above shows a summary of the evidence found. In total, 751 were exposed to omega-3 versus 1733 controls with the smallest study being an

RCT involving 13 people and the largest a case-control study with 1569 participants. A notable difference between these studies was the use of DMARD therapy as part of the inclusion or exclusion criteria. Another difference noted was the RA stage eligible for a trial. Some studies required a diagnosis of RA of <12 months whereas most required stable RA ongoing for >12 months.

**Conclusions:** This review concludes that omega-3 leads to clinical and statistically significant improvements in RA. There was a significant heterogeneity in the trials published with different inclusion criteria especially regarding disease duration and concomitant DMARD therapy. It would seem prudent to include dietary advice in our advice to patients when treating RA. Possible reasons for this evidence would include altering the microbiome.

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AB0376

**RAPAMYCIN INDUCES REMISSION IN PATIENTS WITH NEWLY DIAGNOSED RHEUMATOID ARTHRITIS**

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**Background:** Rheumatoid arthritis (RA) is an autoimmune disease characterised by chronic inflammation of the joints. We found that there was an imbalance between Th17 and Treg cells in the patients with active refractory RA, reduced absolute number of Treg cells was found in these patients.

**Objectives:** To observe the medium-term curative effect of rapamycin in the treatment of 25 cases newly diagnosed rheumatoid arthritis.

**Methods:** Collecting 25 patients of newly diagnosed rheumatoid arthritis, which accorded with RA diagnosis standard of ACR in 1987. The patients were treated with rapamycin at a dose of 0.5 mg every 2 days for 24 weeks, then we observed the change of clinical improvement and immunological assessments after 24 weeks.

**Results:** There was 25 patients enrolled. After rapamycin treatment for 24 weeks, the mean DAS28 of them was decreased from 5.36 [1.42] to 3.45 [1.29](p=0.001). The absolute number of Treg<sup>CD4+CD25+Foxp3+</sup> cells significantly higher than baseline (30.24 [14.44],46.64 [27.54],p=0.025). The absolute number of Th17 cells was not significantly different (6.40 [4.46],7.03 [5.60],p>0.05), and the same as the ratio of Th17/Treg cells (0.25 [0.18],0.19 [0.16]),p>0.05). Meanwhile, the mean dose of prednisone was decreased from 11.25 mg/d to 9.6 mg/d.

**Conclusions:** Rapamycin could induce the balance of Th17 cells and Treg cells, especially up-regulate the absolute number of Treg cells, thus induce remission in patients with newly diagnosed RA.

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Abstract AB0375 – Table 1

Reference:	Study type	Participants in intervention group	Participants in control group	Omega-3 dose	Duration	Did it show efficacy?	How did they assess response?
Proudman et al <sup>1</sup>	RCT	86	53	3.7 g/day	1 year	Yes	Success/failure of DMARDs
Shapiro et al <sup>2</sup>	Case-control	324	1245	>2 servings boiled/baked fish per week	Diet from a 1 year period	Yes	RA risk
Lee et al <sup>3</sup>	Meta-analysis	183	187	>2.7 g/day	>3 months	Clinical not statistical significance	NSAID consumption, tender/swollen joint count, physical function
Bahadori et al <sup>4</sup>	RCT	8	5	0.2 g/kg– fish oil emulsion	22 weeks	Yes	Decrease in swollen and tender joint counts
Rajaei et al <sup>5</sup>	RCT	30	30	3.9 g/day	12 weeks	Yes	DAS28
Tedeschi et al <sup>6</sup>	Cross sectional analysis	31	145	Eat fish>2 x per week (<5.5 g/day)	Diet from past yr	Yes	DAS28
Galarraga et al <sup>7</sup>	RCT	49	48	2.2 g/day	9 months	Yes in reducing NSAID intake but not in DAS28	Daily NSAID requirement
Veselinovic et al <sup>8</sup>	RCT	40	20	600 mg/day	12 weeks	Yes	DAS28