



Considering the Role of Diet and Lifestyle in the Management of Rheumatoid Arthritis



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Opinion

The treatment of rheumatoid arthritis (RA) has improved significantly in recent years with the focus on the therapeutic target of remission or low-disease activity. The NICE guidelines focus on the treat to target recommendations and give a clear focus and objective to therapy. However, the dismissive way in which diet is covered does little to encourage care providers to advise patients of the potential benefits of dietary changes directly to RA symptoms and to the valid treatment target C-reactive protein (CRP).

NICE Guidelines

The NICE guidelines for the management of RA state under section 1.7 diet and complementary therapies [1]; 1.7.1.1 Inform people with RA who wish to experiment with their diet that there is no strong evidence that their arthritis will benefit. However, they could be encouraged to follow the principles of a Mediterranean diet (more bread, fruit, vegetables and fish; less meat; and replace butter and cheese with products based on vegetable and plant oils).

This guideline suggest that at most patients could be encouraged to follow a Mediterranean diet but that there is no strong evidence is highly unlikely to encourage care providers to suggest dietary changes to patients. However, there is a significant body of literature to suggest there may be benefit from dietary change. Furthermore in most cases there are no side effects and only other additional health benefits for the patient.

Role of Diet to have Beneficial Impact on RA

Being overweight is an established factor that leads to worse outcomes in RA patients [2]. Adipose tissue places increased load on joints and also produces pro-inflammatory mediators such as oestrogen, CRP, IL-6 and TNF-alpha. Given the known association with diet of being overweight this on its own should be enough to firmly recommend dietary change.

The study of the gut microbiome is leading to fascinating research showing that RA patients suffer from dysbiosis. Alterations in the gut, dental or saliva microbiome can distinguish individuals with RA from healthy controls, are correlated with clinical measures and could be used to stratify individuals on the basis of their response to therapy [3]. Furthermore after RA treatment this dysbiosis is reduced, suggesting assessing the gut microbiome can be used for prognosis and diagnosis in RA. Thus unsurprisingly in a double blind placebo controlled trial probiotic supplementation reduced levels of inflammatory markers and significantly reduced disease activity scores [4]. Suggesting that considering the role of dysbiosis in RA patients warrants at least some simple questioning of their bowel habits by their care provider.

Consumption of substances with known anti-inflammatory effects has also yielded positive results. For example higher omega 3 & vitamin D intake in the year preceding disease-modifying anti rheumatic drugs (DMARD) initiation produced better outcomes in RA patients [5]. Similarly the review of Marino et al. [6] highlights the potential of various dietary compounds including natural antioxidants such as flavanoids to reduce inflammatory mediators, pro inflammatory gene expression and damaging oxidant production.

Treat to target Recommendations

The treat to target guidelines [7] suggests 4 key treatment principles, one of which “c. abrogation of inflammation is the most important way to achieve these goals”. CRP is one measure used to measure inflammation and a variety of dietary interventions can reduce CRP levels in subjects with pain [8]. Such dietary interventions would fit neatly with the last principle in the treat to target guidelines, “d. treatment to target by measuring disease activity and adjusting therapy accordingly optimises outcomes in rheumatoid arthritis”. Using the treat to target principle allows patients reluctant to start pharmacological treatments

an alternative way to utilise dietary interventions and an objective way to measure progress. Furthermore, initially trying these in patients could act as a first step and where insufficient progress is made they can then clearly see the need to engage in pharmacological treatment.

Conclusion

Current recommendations are dismissive of even trying dietary interventions in RA. However, through decreasing body fat levels there is a clear route with zero negatives that could be used to aid patients. Furthermore there is an association between the gut microbiome and RA and this is another avenue for dietary interventions with no negatives. More simply there are many dietary components that have anti-inflammatory effects. These are directly measurable via CRP and this fits perfectly with the treat to target guidelines.

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