Dementia and Inflamation

There are numerous research papers[references 1,2,3] discussing the possible link of inflamation and Dementia. "Many studies now point to the involvement of neuroinflammation playing a fundamental role in the progression of the neuropathological changes that are observed in AD(Alzheimerâ€™s disease)."[25]
However it is interesting to observe the number of research papers linking Dementia to other inflamatory Diseases.
1. Parkinsons [ref 4,5] Swedish study indicates **people who have Parkinsons Disease have four times higher risk of developing dementia.**
2. Risk of Parkinsons [6,7] and Dementia[8] is actually **DECREASED in people being treated with anti-inflammatory drugs** in arthritis
3. **Glaucoma[9] increases risk of Alzheimer's and Parkinson's Disease**, and that low grade inflammation is a possible factor in Glaucoma [10]
4. **Patients of Psoriasis and psoriatic arthritis [11,12] show high prevalence of different types of dementia**. Both psoriasis and PsA are inflamatory diseases.
5. **Risk of Dementia after a stroke doubles**[13]. Inflamation can be a cause of stroke and is produced by a stroke [14]
6. **Statin users had two to three-fold lower risk of developing dementia**[15] and statin are anti-inflammatory[16].
7. **Increased Risk of Dementia in Patients With Chronic Obstructive Pulmonary Disease.** [17]and (COPD) is associated with chronic inflammation affecting predominantly the lung parenchyma and peripheral airways[18]
8. **Tinnitus has 68% increase in risk of Dementia**.[19] and Tinnitus has connection to Psoriatic Arthritis[20]. And inflammation has been implicated in the pathophysiology of tinnitus[21,22,23]
9. **Diabetes mellitus almost doubled the risk of dementia**[24]. Patients treated with insulin were at highest risk of dementia. An article on Inflammation as a central mechanism in Alzheimerâ€™s disease, discusses how neuronal insulin resistance in turn release numerous pro-inflammatory cytokines.[25]
10. **Distal radius, hip, and spine fractures increase the risk of dementia**[26]. The report list "plausible factors, including ... **inflammatory** responses accompanying fractures".
11. **Facial Bone Fracture[27] or traumatic brain injury[28] increases the risk of dementia.** Both injuries would cause inflammation
12. Dementia symptoms peak in winter and spring **which aligns with the season that inflammation is worse.**

It is plain to see that there is a common factor of inflammation. It is fasciating to note that related inflammatory disease (ex: Stroke,Glaucoma,Tinnitus,Parkinsons) leads to an increased risk of Dementia, while when a related disease is treated with anti-inflammatory drugs(Arthritis) it decreases the risk of Dementia. Also note that injuries causing inflammation have also been found to increase risk of Dementia.

Methods to control inflammation

1. Diet.There are both Anti-Inflammatory Foods (dark leaf greens, cruciferous vegetables, berrries, Omega 3(fish), olive oil, turmeric, cumin, etc) and Inflammatory Foods (sugar, white bread, processes foods, cooking oils). The mediterranean diet is toted to be anti-inflamatory and is recommended by the Alzheimer's Society. New research questions the effectiveness.
2. Exercise can reduce inflammation. And exercise is associated with a lower fisk of dementia.
3. Reduce Stress and improve sleep
4. Hydrate (drink water)
5. Medications (not discussed here)
6. PEMF Pulsed Magnetic Field Therapy
7. Vibratory Therapy reduces inflammation, and Interestingly enough ultrasound (movement) also has has shown improvements with dementia.
8. Hot Bath reduces inflammation. "the 2-week intervention saw a reduction in fasting blood sugar and inflammation. In the same way that exercise influences inflammation, the researchers saw an initial increase followed by a long-term decrease in inflammation." Similarily Sauna Bathing reduces risk of Dementia and AD.

Reference Links:
1. Assessing the contribution of inflammation in models of Alzheimer's disease
"Inflammation has long been proposed as having a role in AD (Alzheimer's disease), although it remains unclear whether inflammation represents a cause or consequence of AD. Evidence from the clinical setting in support of a role for inflammation in AD includes increased expression of inflammatory mediators and microglial activation in the post-mortem AD brain. Also, epidemiological studies on AD patients under long-term treatment with non-steroidal anti-inflammatory drugs suggest some benefits, although recent prospective trials showed no effect."
2. Inflammation and Alzheimer's disease
"Alzheimer's disease (AD) is classified mainly as a neurodegenerative disease. Recent research, however, has shown that inflammatory mechanisms are also associated with AD and that they could have a role in contributing to the pathogenesis of this disease. The evidence is based on histopathological brain studies, laboratory studies of peripheral inflammation and the fact that certain anti-inflammatory drugs could modify the course of AD. There is wide scope for further research using anti-inflammatory therapies in the prevention/treatment of AD, thereby reducing the burden of this widely prevalent condition in the community."
3. The role of peripheral inflammatory markers in dementia and Alzheimer's disease: a meta-analysis
"Seven studies were identified, combining for a total 5,717 participants, 746 cases of all-cause dementia and 565 cases of AD. An increased level of C-reactive protein was associated with a 45% increased risk of all-cause dementia"
4. High risk of developing dementia in Parkinsonâ€™s disease: a Swedish registry-based study
"PwP had approximately four times higher risk of developing dementia"
5. Inflammation in Parkinsonâ€™s Disease: Mechanisms and Therapeutic Implications
"A crucial role of inflammation in developing Parkinsonian symptoms has been suspected for many years since the initial observation of Parkinson-like symptoms in individuals infected with the influenza virus"
6. Decreased Risk of Parkinson's Disease After Rheumatoid Arthritis Diagnosis: A Nested Case-Control Study with Matched Cases and Controls
Individuals with a previous diagnosis of RA had a decreased risk of later developing PD by 30-50% compared to individuals without an RA diagnosis. This relationship was strongest in our conservative analysis, where the first PD diagnosis occurred close to the earliest PD symptoms (odds ratio 0.47 (CI 95% 0.28-0.75, p = 0.0006); with the greatest risk reduction in females (odds ratio 0.40 (CI 95% 0,19-0.76, p = 0.002). Our findings provide evidence that individuals diagnosed with RA have a significantly lower risk of developing PD than the general population. Our data should be considered when developing or repurposing therapies aimed at modifying the course of PD.
7. Association Between Rheumatoid Arthritis and Risk of Parkinson's Disease: A Meta-Analysis and Systematic Review
Four population-based studies involving 353,246 patients and one Mendelian randomized study were included in our study. The pooled result showed a significantly reduced risk of PD in patients with RA than in the general population This study supports that people with RA had a lower PD risk than those without RA.
8. Can treatments for arthritis be repurposed for dementia? â€“ Alzheimerâ€™s Society comments
'This research suggests drugs used to control inflammation in rheumatoid arthritis may reduce the risk of dementia â€“ but as it was an observational study, not a clinical trial, further

research is needed before we can draw any firm conclusions about arthritis drugs as a treatment for dementia..
9. Association between Open-Angle Glaucoma and the Risks of Alzheimer's and Parkinson's Diseases in South Korea: A 10-year Nationwide Cohort Study
"Patients diagnosed with OAG have a higher risk of developing AD, but not PD, and the risk differed according to age and sex"
10. The role of inflammation in the pathogenesis of glaucoma
"We review recent studies elucidating a possible role of low-grade inflammation as a causal factor in the pathogenesis of glaucoma."
11. Association Between Psoriasis and Dementia: Current Evidence
"Conclusions:Â The patients with psoriasis and psoriatic arthritis show high prevalence of different types of dementia. Based on the findings of this study, dementia may not be considered a high-risk factor of death from severe psoriasis."
12. Association between psoriasis and dementia: A systematic review
"Most studies included in this review supported the hypothesis that psoriasis constitutes a risk factor for dementia"
13. Dementia after stroke: the Framingham Study
"Stroke increases a subject's risk of dementia as compared with age- and sex-matched controls. Primary and secondary prevention of stroke should significantly decrease the risk of all dementia. . Baseline stroke doubled the risk of dementia (hazard ratio [HR]: 2.0; "
14. Inflammation and Stroke: Breaking Down the Bodyâ€™s Defense Mechanism
"Fortunately, inflammation can be reduced through lifestyle and dietary changes, which can also help lower the risk of recurrent stroke. This article will explore the connection between inflammation and stroke, and discuss how it can either be positive or negative depending on the circumstance. Furthermore, we will identify specific steps you can take to help reduce inflammation within your brain and body."
15. Statins and serum cholesterolâ€™s associations with incident dementia and mild cognitive impairment
Statin users had two to three-fold lower risk of developing dementia (HR=0.41
16. Statins and inflammation: an update
Statins have anti-inflammatory properties that are clinically important in lowering cardiovascular risk. It is probable, but not definitely proven, that some of the benefits of statins are due to their nonlipid effects.
17. Increased Risk of Dementia in Patients With Chronic Obstructive Pulmonary Disease
This nationwide cohort study demonstrates that the risk of dementia, including AD and PD, is significantly increased in patients with COPD compared with individuals in the general population.
18. Inflammatory mechanisms in patients with chronic obstructive pulmonary disease
Chronic obstructive pulmonary disease (COPD) is associated with chronic inflammation affecting predominantly the lung parenchyma and peripheral airways that results in largely irreversible and progressive airflow limitation.
19. Risk of early-onset dementia among persons with tinnitus: a retrospective case-control study
Our findings showed that pre-existing tinnitus was associated with a 68% increased risk of developing early-onset dementia among young and middle-aged adults. The results call for greater awareness of tinnitus as a potential harbinger of future dementia in this population.
20. Tinnitus And Its Connection to Psoriatic Arthritis

21. Inflammation in Tinnitus (INFLATIN
"In the past decade, inflammation has been implicated in the pathophysiology of tinnitus. In animal models of tinnitus, the expression of proinflammatory cytokines Tumor Necrosis Factor-Î± (TNF-Î±) and interleukine-1Î² (IL-1Î²) was increased throughout the whole auditory tract. Only two studies evaluated cytokine concentrations in tinnitus patients."
22. Clinical trial

23. Inflammation focus
"In recent years, inflammation in the body has become a major focus of researchers investigating a long list of conditions from arthritis to heart disease, diabetes, and even cancer. Such research tends to point to the host immune response creating inflammation as part of our defence process against a wide range of factors."
24. Diabetes mellitus and the risk of dementia
"During the follow-up, 126 patients became demented, of whom 89 had AD. Diabetes mellitus almost doubled the risk of dementia (relative risk [RR] 1.9 [1.3 to 2.8]) and AD (RR 1.9 [1.2 to 3.1]). Patients treated with insulin were at highest risk of dementia (RR 4.3 [1.7 to 10.5])."
25. Inflammation as a central mechanism in Alzheimerâ€™s disease
"The mechanism of neuronal insulin resistance appears to be similar with Ab oligomers inducing microglial activation, which in turn release numerous pro-inflammatory cytokines, including TNF-a [275]. Although activation of microglia by Ab is an adaptive physiological response to reducing Ab burden through phagocytosis, chronic inflammation leads to exacerbated AD pathology and metabolic abnormalities, which in turn further exacerbate pathogenesis. These data are providing evidence for links between molecular pathways and biochemical abnormalities associated with inflammatory mechanisms shared between AD and DM."
26. Increased risk of dementia after distal radius, hip, and spine fractures
"Distal radius, hip, and spine fractures increase the risk of dementia. Several plausible factors, including predisposition to balance problems, inflammatory responses accompanying fractures, and treatment-related complications, may influence the high risk of dementia in fracture patients."
27. Increased Risk of Dementia in Patients with Craniofacial Trauma: A Nationwide Population-Based Cohort Study
"Facial bone fracture (standardized incidence ratio, 1.58; 95% confidence interval, 1.25-2.00) was shown to be associated with an increased dementia risk compared with the general population."
28. Dementia risk after traumatic brain injury vs nonbrain trauma: the role of age and severity
"A total of 51,799 patients with trauma (31.5%) had TBI. Of these, 4361 (8.4%) developed dementia compared with 6610 patients with NTT (5.9%) (P < .001). We found that TBI was associated with increased dementia risk (hazard ratio [HR], 1.46; 95% CI, 1.41-1.52; P < .001)."