Clinical improvement in patients with ME/CSF treated with Colchicine and Spironolactone when targeting the inhibition of Inflammasome activation.

do Campo J[1], Taylor V[2]
[1]Noosa Hospital, Queensland, [2] Ibuki Medical Center, Noosa, Queensland

Background:
Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome (ME/CFS) has been associated to Epstein Bar Virus (EBV), Coxsakie virus and Ross River virus infections. Recently a similar condition to ME/CFS has been described as 'Long Covid' associated to SARS-CoV-2. Patients with positive EBV serology and ME/CFS may be carriers of a chronic latent infection that translates in a chronic systemic inflammation with neuroinflammation. The activation of the immunologic cascade after a viral infection or vaccination can trigger the formation of Anti-idiotype antibodies (Ab2) and an activation of pyrin domain containing protein3 (NRLP3) inflammasome. The NRLP3 inflammasome is the pattern of activation for interleukin (IL1-beta) cytokine complex which is activated in inflammatory conditions (1). Colchicine is postulated to work by inhibiting tubulin polymerization and microtubule formation blocking inflammasome activation (2). Spironolactone increased the activity and number of macrophage angiotensin converting enzyme 2 (ACE2) receptors. In the microglia this effect may represent a reduction of neuro-inflammation (3). In this abstract we present ME/CFS patients treated with the synergetic effect of Colchicine and Spironolactone to inhibit Inflammasome and decrease inflammation.

Population and Method:
23 patients (19 females) with positive serology for EBV infection and ME/CFS were included. All the patients were treated with multivitamins. Patients were educated about benefit and adverse effects of spironolactone and colchicine before treatment. The starting dose of Spironolactone was 12.5 mg a day increased to 25 mg a day (during years 2019 to 2021). The introduction of Colchicine 0.5 mg/day on treatment plan was during year 2021. Patient follow-up was in the outpatient clinic and GP clinic.

Results:
Total 23 Patients: 19 were Females age 37.3±28 and 4 were Males age 61±9. Two patients stop colchicine after 4 weeks. Improvement in cognitive skills was the early manifestation of spironolactone benefit. Patients reported to be less brain foggy, more alert, and they found it easier to focus when doing normal everyday activities. They were also less irritable by noise and light and described themselves to be able to multi-task again. There was an improvement in general condition and everyday activities four weeks after Colchicine started.

Conclusion:
Patients with ME/CFS improve their cognitive skills and everyday physical activity tolerance when treated with Colchicine and Spironolactone.

References:

1) Murphy J, Longo D. A Possible Role for Anti-Idiotypes Antibodies in SARS-CoV-2 infection and vaccination N Engl J Med November 24,2021
2) Tardif J-C, Kouz S, Waters DD, et al. Efficacy and safety of low-dose colchicine after myocardial infarction. N Engl J Med 2019;381: 2497-2505
3) Mineralocorticoid Receptor Blocker Increases Angiotensin- Converting Enzyme 2 Activity in Congestive Heart Failure. Keidar S, et al. Circ Res.2005:97:946-953.