CAM (Complementary and Alternative Medicine) has yet to be formally investigated in the specific setting of arachnoiditis, although Aldrete is undertaking a study on alpha lipoic acid and magnesium.

However, by looking at some of the treatments that have proved effective in similar conditions such as diabetic neuropathy, we may be able to establish a useful regime.

Alpha Lipoic Acid

In the March 1997 Diabetes Care Journal the suggested oral treatment was alpha-lipoic acid 800-1000 mg a day for the treatment of peripheral neuropathy.

In Germany, where herbal treatment is much more prominent than in the UK and is widely accepted, conditions such as diabetic neuropathy are treated with ALA. In 1999,

Ziegler et al ([1]) reported results from a 3-week pilot study using 1800 mg a day ALA. They also found that oral treatment for 4-7 months tended to reduce neuropathic deficits and improved cardiac autonomic neuropathy.

Ruhnau et al. ([2]) reported that

"oral treatment with 600 mg of TA t.i.d. for 3 weeks may improve symptoms and deficits resulting from polyneuropathy in Type 2 diabetic patients, without causing significant adverse reactions."

In 2000, Hilz et al ([3]) stated

"Symptomatic therapy includes alpha-lipoic acid treatment, as the antioxidant seems to improve neuropathic symptoms."

They also advocated use of ALA alongside ?conventional analgesia', with evening primrose oil (EPO), containing gamma-linolenic acid (GLA), to improve nerve conduction velocities, temperature perception, muscle strength, tendon reflexes and sensory function.

Halat and Dennehy looked at the medical literature up to 2001 ([4]) and concluded:

"Evening primrose oil, alpha-lipoic acid, and capsaicin have received the greatest attention for their use in diabetic neuropathy, but further studies are needed to confirm their efficacy. Patients using these products need to be informed of potential drug interactions and side effects."

The SYDNEY trial group, at Russian Medical Academy for Advanced Studies, Moscow ([5]), looked at the use of ALA in diabetic neuropathy.

They concluded:

"Intravenous racemic ALA, a potent antioxidant, rapidly and to a significant and meaningful degree, improved such positive neuropathic sensory symptoms as pain and several other neuropathic end points.

This improvement of symptoms was attributed to improved nerve pathophysiology, not to increased nerve fiber degeneration. Because of its safety profile and its effect on positive neuropathic sensory symptoms and other neuropathic end points, this drug appears to be a useful ancillary treatment for the symptoms of diabetic polyneuropathy."

Femiano and Scully ([6]) have also found that ALA is beneficial in cases of burning mouth syndrome.

Red cell shape: Simpson has performed analysis of the shape of red blood cells, based on his previous work on patients suffering from ME or fibromyalgia ([7]).

He has found that, as in those other conditions, there is an increase in the number of flat red cells (normally they are biconcave discs).

This phenomenon has considerable bearing on symptoms such as fatigue, as the flat cells have a reduced oxygen-carrying capacity and thus the increased need for energy in muscles during exercise is not met and the individual will fatigue much quicker than a healthy individual.

Evening Primrose Oil (EPO):

The use of Evening Primrose Oil to counteract symptoms is based on studies which have demonstrated that EPO induces improvement in blood flow and oxygen delivery to tissues, including nerve tissues in diabetic individuals (studied in rats): thus preventing or improving nerve conduction deficits. There will also be a benefit in the blood supply to muscles, which could impact on fatigue as well as muscle disturbances such as spasm.

As the Simpson and Anderson paper states:

"There is strong anecdotal evidence for the effectiveness of EPO in relieving the symptoms experienced in many chronic conditions where such symptoms appear to be related to oxygen deprivation."([8])

In addition, there has been a Japanese study, which used lipoprostaglandin (Lipo PGE-1) to treat the pain of spinal stenosis and was shown to increase blood flow to the affected nerve roots and cauda equina, for a limited period. ([9])

EPO is converted in the body to Prostaglandin E-1, so it is reasonable to expect a similar effect. Indeed, PGE-1 has been shown to benefit patients with Raynaud's phenomenon, where spasm of the small blood vessels in the extremities results in poor circulation.

PGE-1 has also been shown to have a beneficial effect on red cell deformability. This brings us back to the abnormalities of red blood cells, observed by Dr. Simpson.

In Part 2 of Simpson and Anderson's study ([10]), 46 of the original 69 respondents participated in assessing the value of Evening Primrose Oil (EPO) as a dietary supplement for relief of symptoms experienced by arachnoiditis sufferers.
33 respondents trialled EPO but only 19 were taking the supplement at the end of the study.

This was due to 6 discontinuing due to unacceptable side effects (predominantly gastrointestinal e.g. nausea/vomiting, diarrhoea, acid reflux, abdominal distension, with also one case of weight gain and one of facial swelling). A further 5 respondents felt that they gained no benefit and had therefore stopped taking EPO.

15 of the respondents tried 2 different products: of which 9 found one to be distinctly superior.

However, the paper states that

"No particular product appeared to stand out as superior to others. The effectiveness of any product appeared to be an individual response."

Dosage ranged from 1,000 to 5,000mg (4,000 being the recommended dose.)
Positive experiences with EPO included:

- Improved energy (12 subjects)
- Improvement in pain (slight to considerable in 12)
- Reduced muscle disturbances, particularly morning stiffness (10)
- Headaches reduced (6)

Subjects also reported: greater alertness, better quality of sleep, general improvement of wellbeing.

The paper ([11]) concluded that a recommended daily dose of Evening primrose oil of 4,000mg (4g) may exert a beneficial effect and improve some of the diverse symptoms of arachnoiditis.

However, further research is needed into this and many other aspects of a condition which has no specific pattern of presentation, and may indeed be labelled as one of the similar conditions: MS, ME, FM (fibromyalgia) or Lupus.

The authors also mentioned that the factors* predisposing to the condition and statistics on the prevalence of the condition remain unknown at this time.

(* NOTE: these are biological factors within the individual, which, when the body is challenged by extraneous risk factors such as trauma or chemical insult, interact to result in this incurable condition.

Recognition of these factors might help to determine who in the population is at greater than average risk of developing arachnoiditis from a procedure such as surgery/epidural injection.

These factors may be genetic, biochemical or mechanical, and may involve an autoimmune component)

As the authors state:

"Ideally every person with disabling arachnoiditis should be referred to a spinal unit for

inpatient rehabilitation, aiming for maximum function through pain management, occupational therapy and physiotherapy etc., followed by regular monitoring."

Note: Use of EPO or any other dietary supplement should be viewed as part of a holistic approach to treating arachnoiditis, which is a complex condition which is likely to respond best to a range of therapeutic interventions including pain relief, physical treatments, lifestyle changes, psychological techniques and participation in support groups.

GLA

Gamma linolenic acid is an Omega-6 fatty acid. It can be found in products such as Evening Primrose Oil (EPO), Borage Oil and Starflower Oil. GLA has been found to be beneficial in a number of conditions, most relevantly, Multiple Sclerosis and arthritis.

EPO takes about 8-10 weeks to start having an effect. Fang ([12]) demonstrated the effectiveness of GLA in providing arachidonate as raw material for the production of prostacyclin, and also stimulates COX-1 expression in some tissues.

Cameron ([13]) showed that a novel essential fatty acid derivative ascorbyl-GLA was40 times as effective as GLA as a treatment for neuropathy. It is not as yet available commercially, but the same study showed that GLA plus ascorbate was over 75% as efficacious as ascorbyl-GLA. It may therefore be helpful to take a good dose of vitamin C along with the EPO.

Nerve conduction and perfusion deficits in diabetic rats have been corrected by a combination of antioxidant and gamma-linolenic acid (GLA) supplements. This suggests a synergistic effect of antioxidant and GLA when used to combat diabetic neuropathy.

Other studies have shown that a combination of Omega-3 oils (in fish oils and flax oil) with Omega-6 has a significant benefit compared with the use of either type of oil alone.

A 1.3:1 GLA: alpha-lipoic acid ratio appears to be optimal against experimental diabetic neuropathy. (Cameron 1998 [14])

Omega-3 Oils

Essential fatty acids EPA and DHA derived from fish oils have been found beneficial in conditions in which there is an inflammatory component. The old wives' remedy of cod liver oil does seem to have some rational basis and can be demonstrated scientifically to reduce symptoms in arthritis. Fish oils, whilst much slower to work, can be as effective as NSAIDs in the medium to long term in reducing joint pain. Dr.

Robert Atkins, founder of the Atkins Centre in New York, and a renowned expert in integrated medicine, advocates the use of high dose EPA and DHA to combat autoimmune conditions. He has found that patients with conditions such as lupus,

Crohn's disease and Multiple Sclerosis have benefited from this form of therapy.

A comparative study ([15]) looked at the effect of dietary supplementation with fish oil on the sciatic nerve of diabetic rats. Nerve conduction velocity was found to improve using the fish oil treatment, which also had a preventive effect on nerve damage. These data suggest that fish oil therapy may be effective in the prevention of diabetic neuropathy.

Nutritional Strategy for Lowering PGE2:

A South African study in 1995 found that fish oil and evening primrose oil supplementation had biochemical results indicative of a favourable effect on osteoporosis.

Evening primrose oil may have potentiated the effects of fish oil.

High intakes of fish, black currant, evening primrose, and borage oils may help optimize bone modelling and remodelling.

Doses: 2 g per day of fish oil, evening primrose, or black currant or borage oil are safe, and may enhance bone formation, especially when used on a long-term, preventative basis.

Acetyl L-carnitine:

This amino acid is currently being investigated in the treatment of peripheral neuropathy.

A randomized, controlled clinical trial in 1995 ([16]) demonstrated

"a significant amelioration of symptoms"

when patients took 2 x 500mg ALC (intramuscular injection) per day. (Note: The absorption of ALC taken orally is unlikely to be equivalent to the absorption of injectable ALC).

A 1998 study by doctors in London noted that treatment with ALC may be one of the newer agents that could assist in the treatment of drug-induced peripheral neuropathy ([17]).

Rat studies have shown that ALC attenuates nerve damage and promotes regeneration.([18])

A 1998 study at the Nagoya University School of Medicine in Japan showed that carnitine deficiency was closely related to the pathogenesis of diabetic neuropathy, leading the doctors involved to conclude that ALC holds considerable potential for the treatment of this type of neuropathy ([19]).

Herbal treatments: some arachnoiditis patients have tried various herbal preparations with different degrees of success; for instance, St. John's Wort, which acts similarly to Prozac, may be helpful in mild depression.

Please note: it is vital to check with your doctor and/or pharmacist before taking herbal preparations in case they interact with medication you are currently taking.

Bromelain: reduces production of fibrin in the body; used in Germany to manage arthritis. Up to 3 250-300mg tablets four times a day. (max effect take between meals): do not use if allergic to bee venom or if have high blood pressure or bleeding disorder.

Uva Ursi: for unstable bladder; contains arbutin and hydroquinone (the latter has powerful antimicrobial activity): helps to strengthen muscles of bladder and is an effective remedy for UTIs. 100mg x2 for cystitis; restrict to 14 days.

Bioforce Uva Ursi Complex tincture 15-20 drops x3 a day. Do not use if pregnant or kidney disorder. DO not use for prolonged periods. Do not mix with fruit juice or vitamin C.

Further details on various herbs are available in "WHOA: Wholistic Treatment of Arachnoiditis"

Possible supplement regime

Vitamin A

Vitamin C 1-2 g

Vitamin E 400iu

Alpha-lipoic acid (thioctic acid) 100mg - 600mg

Vitamin B Complex

Magnesium (Note: Excessive magnesium intake can cause renal problems)

Zinc

MSM 1-2 g a day

Fish oil or flax oil capsules (high strength)

Evening primrose oil/ borage/starflower

Glucosamine for joint pains (+/- chondroitin)

Ginger/bromelain as anti-inflammatory

Ginkgo Biloba extract 120mg unless on NSAIDs or Warfarin

Note: Bromelain, an enzyme derived from pineapple, reduces fibrin

For further details please see WHOA! article

Lifestyle measures:

- pacing
- reducing stressors
- planning
- adapting
- stopping smoking (which is linked with poor healing and may reduce blood supply to discs by up to 70%)
- avoiding excess alcohol

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