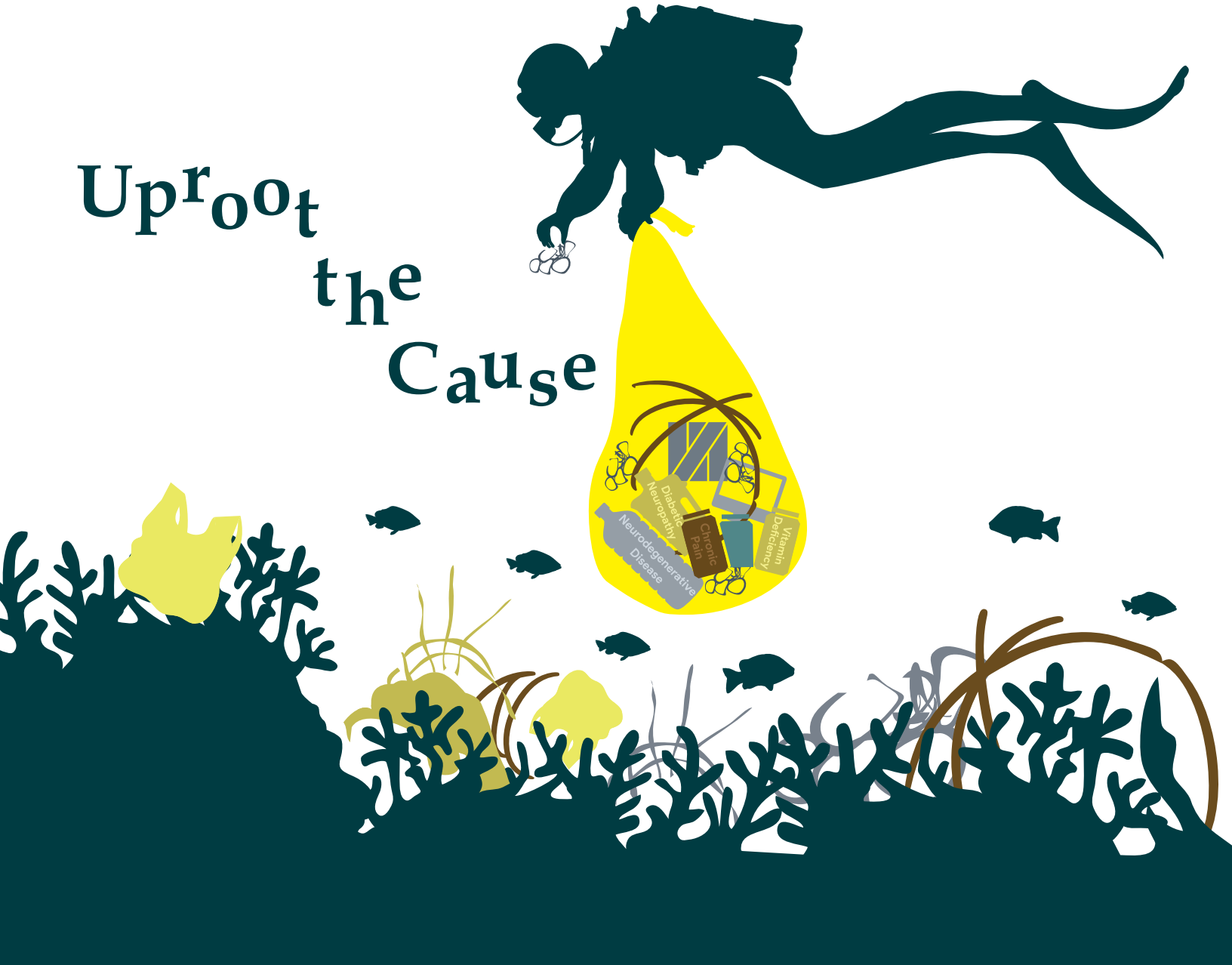
La Renon

GLIAREN-D

Mecobalamin 1500 mcg, Alpha Lipoic Acid 100 mg,
Pyridoxine Hydrochloride 3 mg, Folic Acid 1.5 mg and Vitamin D3 1000 IU Tablets

Uproot the Cause



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1. Alpha Lipoic Acid (ALA) improves Symptomatic Diabetic Polyneuropathy[1].

- ✓ In this multicenter, randomized, double-blind, placebo-controlled trial, 181 diabetic patients with distal symmetric polyneuropathy (DSP) received once-daily oral ALA for 5 weeks.
- ✓ The primary outcome measure was the change from baseline of the Total Symptom Score (TSS), including stabbing pain, burning pain, paresthesia, and asleep numbness of the feet.
- ✓ The results of this trial demonstrated that oral treatment with ALA over 5 weeks improved the positive sensory symptoms scored by the TSS in diabetic patients with DSP.

CONCLUSION:

- ✓ Oral treatment with ALA for 5 weeks improved neuropathic symptoms and deficits in patients with DSP.

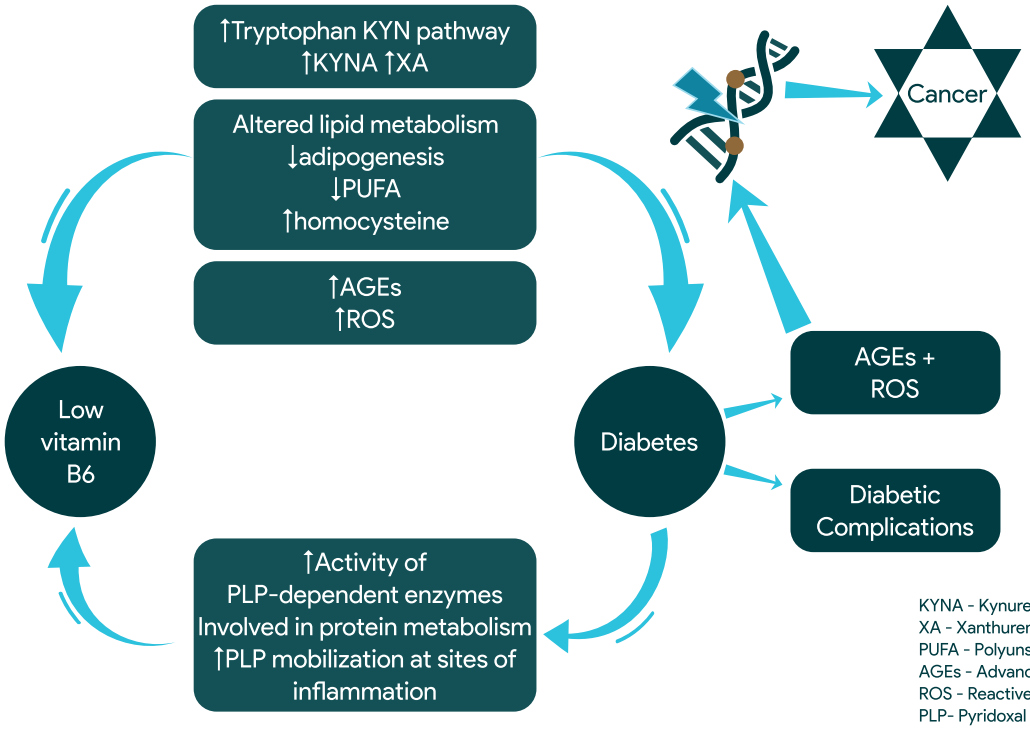
2. Effect of Folic acid supplementation on nerve conduction velocity (NCV) in diabetic polyneuropathy patients[2].

- ✓ Patients were randomized to receive either 1 mg of folic acid (n=40) or placebo (n=40) for 16 weeks. Blood samples were collected to assess serum folic acid and homocysteine concentrations, and NCV was performed for the assessment of diabetic neuropathy.
- ✓ At 16 weeks, in the supplemented group, There was a significant increase in sensory sural amplitude ($p < 0.001$), and components of motor nerves, including amplitude ($p = 0.001$) and velocity ($p < 0.001$).

CONCLUSION:

- ✓ Folic acid supplementation decreased serum levels of homocysteine and increased serum levels of folic acid. Folic acid was also found to be useful for enhancing NCV in DPN patients.

3. Mechanisms and pathways at the basis of the association between vitamin B6 and diabetes[3].



KYNA - Kynurenic Acid
XA - Xanthurenic Acid
PUFA - Polyunsatured Fatty Acids
AGEs - Advanced Glycation End-products
ROS - Reactive Oxygen Species
PLP- Pyridoxal 5'-Phosphate.

4. Methylcobalamin significantly improved symptoms of diabetic polyneuropathy.

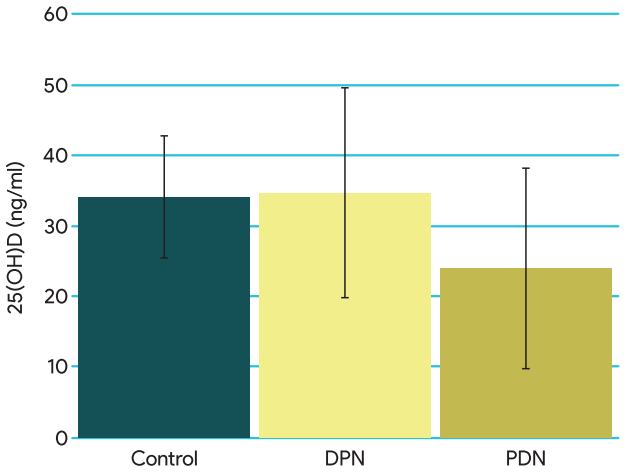
- ✓ A prospective, open-label study was conducted on adult diabetic subjects with polyneuropathy who were given 1500 µgm/day of oral methylcobalamin over 24-weeks.
- ✓ At the end of treatment, there was a significant decline in the Toronto Clinical Scoring System score ($p< 0.0001$) indicating improvement.
- ✓ The symptoms that improved compared to baseline and that did not emerge over the course of 24 weeks were tingling, upper limb symptoms, ataxia, and signs of impaired position sense, vibration sense, pinprick sensation and knee reflex.

CONCLUSION:

- ✓ Symptoms of diabetic polyneuropathy significantly improved among subjects given methylcobalamin 1500 µgm/day and new symptoms did not emerge over the 24 week observation period.

5. Vitamin D deficiency is associated with painful diabetic neuropathy.

- ✓ 43 patients with type 1 diabetes and painless (DPN) (n = 20) or painful (PDN) (n = 23) neuropathy and 14 non-diabetic healthy control subjects (C) underwent assessment of neurologic deficits, quantitative sensory testing (QST), electrophysiology & measurement of serum 25(OH)D.

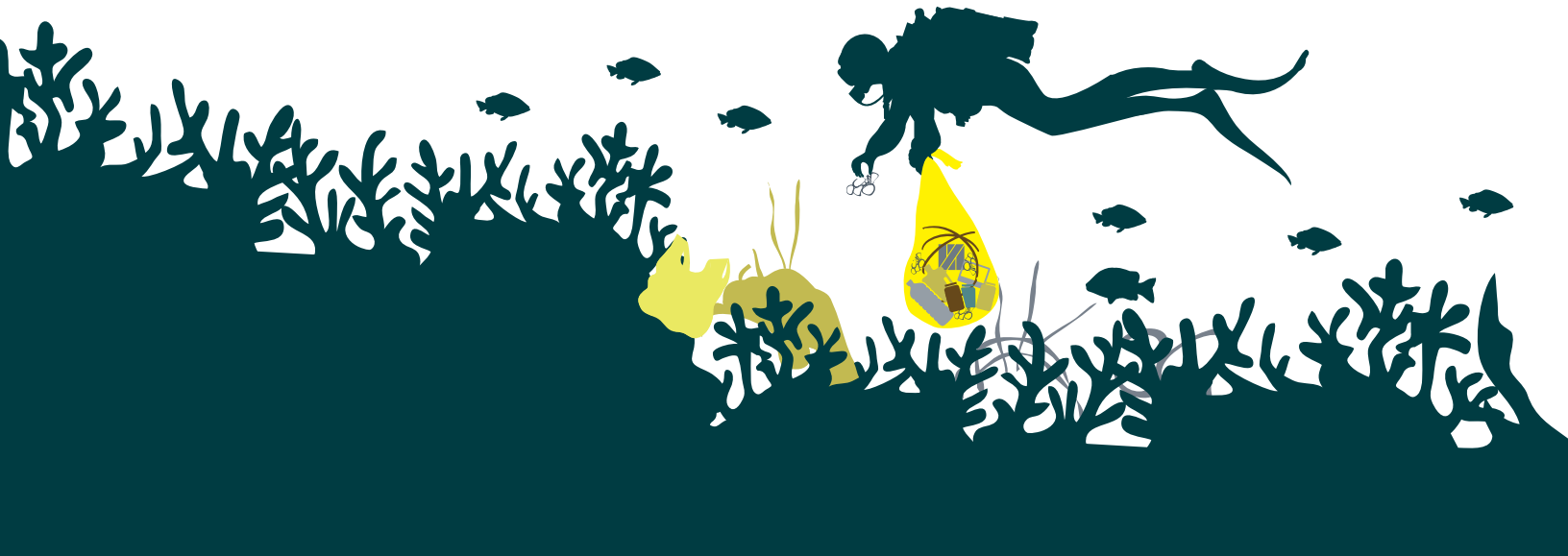


- ✓ Serum 25(OH)D levels were significantly lower in PDN (24.0 ± 14.1 ng/mL) compared with DPN (34.6 ± 15.0 ng/mL) and controls (34.1 ± 8.6 ng/mL).
- ✓ The odds ratio in favour of painful diabetic neuropathy was 9.8 [P =0.003] for vitamin D deficiency (<20 ng/mL) and 4.4 [P = 0.03] for vitamin D insufficiency (<30 ng/mL).

CONCLUSION:

- ✓ Vitamin D deficiency and insufficiency are associated with painful diabetic neuropathy.

References: 1.Diabetes Care 29:2365–2370, 2006 I 2. Neurol Res. 2019 Apr;41(4):364-368. I 3. Int. J. Mol. Sci. 2020, 21, 3669
4. Journal of Diabetes Mellitus Vol.2, No.4, 408-412 (2012) I 5. Diabetes Metab Res Rev. 2020;e3361



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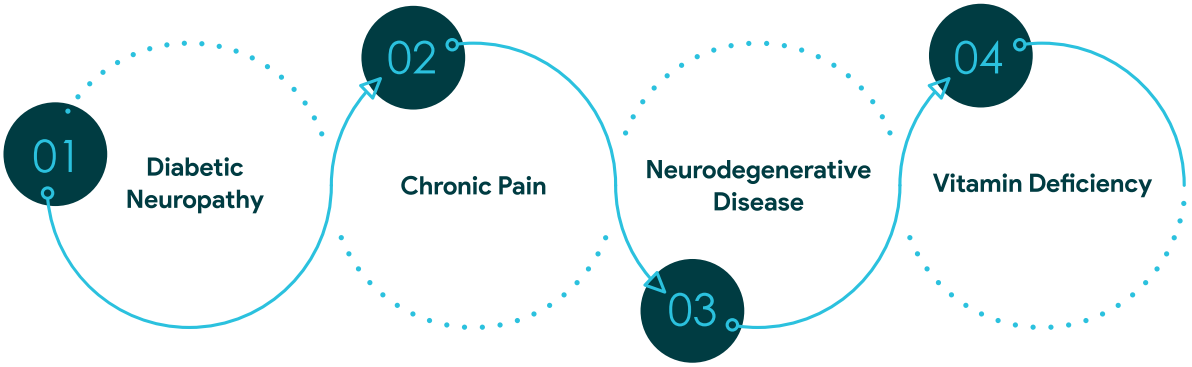
DESCRIPTION:

GLIAREN-D is a multivitamin preparation which contains Mecobalamin, Alpha Lipoic Acid, Pyridoxine Hydrochloride, Folic Acid and Vitamin D3 available in tablets form.

INDICATION:



ROLE AND MECHANISM OF ACTION:

1. Alpha-lipoic acid:

ALA delays or reverses peripheral diabetic neuropathy through its multiple antioxidant properties. Treatment with alpha-lipoic acid increases reduced glutathione, an important endogenous antioxidant.

2. Vitamin-D:

It increases the level of nerve growth factor by stimulating its production and preventing its depletion. Nerve growth factor plays an important role in the development and survival of sensory and sympathetic neurons.

3. Mecobalamin:

It works by functioning in the production of a compound called myelin, which covers and protect nerve fibers. Methylcobalamin rejuvenates the damaged neuron. Without enough methylcobalamin, myelin sheath does not form properly due to which nerve fibers suffers and people experience irreversible nerve damage. It also helps in the synthesis of neuronal lipids, regeneration of axonal nerves and has neuroprotective activity.

4. Pyridoxine:

It is an essential nutrient which is required for the metabolism of lipids, carbohydrates and proteins. It is also needed for the synthesis of neurotransmitters and for converting essential fatty acids into prostaglandins.

5. Folic Acid:

Folic acid is useful for enhancing Nerve Conduction Velocity in Diabetic Neuropathic patients.

DOSAGE:

One to two tablets a day or as directed by the physician.

References: 1. Rev Diabet Stud. 2009 Winter; 6(4): 230–236 I 2. The Egyptian Journal of Neurology, Psychiatry and Neurosurgery (2019) 55:10
3. Austin J Pharmacol Ther. 2015; 3(3).1076. I 4. Neurol Res. 2019 Apr;41(4):364-368.

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