

# Vitamins B during LCIG infusion

## possible strategy to reduce peripheral neuropathy

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### Objectives

- Incidence of new onset peripheral neuropathy ( post-PN)
  - Evolution of pre-existing PN (pre-PN)
- in 32 Parkinson's disease (PD) patients treated with Levodopa/Carbidopa IntestinalGel (LCIG) and with vitamins B oral supplementation since PEG-J implant as influence of levodopa on 1-carbon pathway was hypothesized.

### Methods:

- UPDRS-III } **Motor outcome**
- UPDRS-IV }
- H&Y }
- ONLS [0-12] (disability) } **PN onset and evolution**
- MRC-SS [0-60] (motor) }
- INCAT [0-20] (disability) }

### Neurophysiological tests (upper and lower limbs)

- SAP of ulnar, median, radial and sural nerves
- cMAP of median, ulnar, peroneal and tibial nerves

### Biochemical protocol:

- vitamin B 12 dosage
- Homocysteine (Hcy) dosage
- Folate dosage

**Fig.1:** sural SAP amplitude: dot line as threshold (>4  $\mu$ V) of normal value

**Fig.2, Fig.3:** vit. B12 and folate blood dosage

**Fig 4, Fig.5, Fig6:** clinical scales on neuropathy

### Results and Discussion:

- progressive reduction of sural SAP and common peroneal cMAP amplitude in all 32 patients enrolled (mean follow-up 45.4 months).
- pre-PN patients, SAPs and cMAPs decreased slightly and steadily.
- among who has normal clinical-electrophysiological assessment at baseline (22/32), four (18.02%) developed an asymptomatic chronic distal symmetrical axonal PN(post-PN)
- No case of acute or subacute PN or LCIG interruption was documented.
- Vit. B12, Folate, Hcy fluctuated within range of normality during the whole follow-up.
- No correlation with Hcy, age, sex, BMI, Levodopa dosage and duration of levodopa administration was disclosed
- All post-PN patients had early onset of PD and long history of oral LD intake.

### Conclusions:

≈ Possible role of vitamins B therapy in decreasing the incidence or delaying the onset of PN in LCIG-PD patients.

≈ Early PD's onset and long history of oral LD intake prior to LCIG may be considered risks factors to develop PN after PEGJ implant

### Bibliography

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