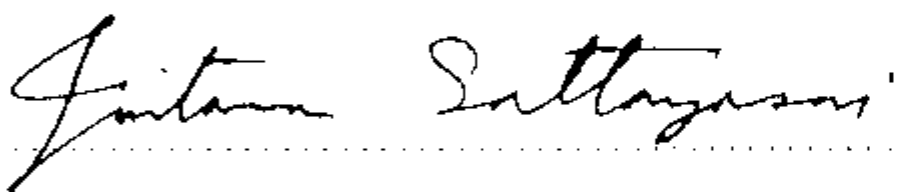
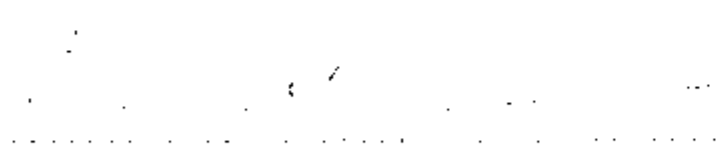


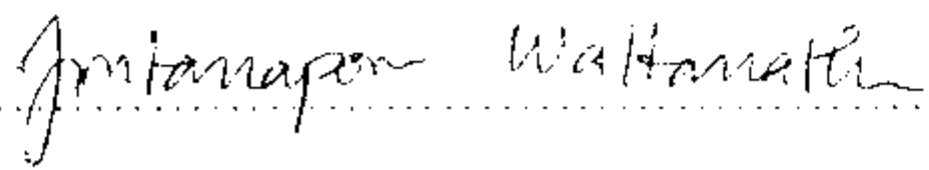
THESIS TITLE : THE EFFECTS OF PRIMROSE OIL ON PYRIDOXINE
MEGADOSE - INDUCED PERIPHERAL NEUROPATHY IN RATS

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ABSTRACT

Ingestion of pyridoxine megadose seems to be one of the important causes of drug - induced peripheral neuropathy. Although a certain numbers of reports concerning pyridoxine - induced neuropathy have been published recently, the mechanism of toxicity is still unclear and there are no known therapeutics against the degeneration. In this study, the effects of pyridoxine megadose in rats and the possibility for using evening primrose oil (EPO) as preventive therapy were determined.

Fourteen days after receiving pyridoxine in a dose of 800 mg / kg / day, the body weight of treated group was significantly less than that of control group. The weakness of hind limb muscles and ataxia have been observed starting since day 8 of treatment and progressively deteriorate until the end of the experiment. Muscle power score and nerve conduction velocity were also significantly decreased after day 8 of treatment. The nerve conduction velocity on day 0, 8 and 15 were 30.67 ± 0.67 , 24.80 ± 0.20 and 22.43 ± 0.29 m / s, respectively. The histological examination under light microscope showed that sciatic nerve, a myelinated nerve fiber, exhibited degenerative

change and amount of nerve fibers also decreased, while there was no significant changes in the morphological structure of gastrocnemius

It is very interesting that treatment with pyridoxine megadose also resulted in the decrease of lymphocyte number. This might suggest the effect of pyridoxine megadose on the body immune response.

The effects of EPO and pyridoxine treatment either started on day 0 or day 8 did not show significant different from the effects of megadose pyridoxine treatment only. This suggested that EPO could not have protective or curative effect against peripheral neuropathy induced by megadose of pyridoxine.