A Pilot Study on Alpha Amylase and Xanthine Oxidase Inhibitory Effect of Vinblastine Sulphate

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Clinical Image

Vinblastine a well known anti cancer drug for Hodgkin’s disease, lymphocytic leukemia, mycosis fungoides, testicular cancer, Kaposi’s sarcoma, and histiocytic lymphoma [1]. Vinblastine binds to tubulin and inhibits microtubule formation, resulting in disruption of mitotic spindle assembly and arrest of tumor cells in the M phase of the cell cycle [2]. This agent may also interfere with amino acid, cyclic AMP, and glutathione metabolism; calmodulin-dependent Ca++-transport ATPase activity; cellular respiration; and nucleic acid and lipid biosynthesis [3]. Common side effects of Vinblastine includes nausea, vomiting, hair loss, leucopenia, jaw pain, high blood pressure, muscle weakness, and constipation [2]. In this study an attempt has been made to know the effect of vinblastine sulphate on In-vitro inhibition of Alpha Amylase and Xanthine Oxidase activities at the concentration of 10, 20, 40, 80µg/ml [4,5]. The results shown both the enzymes have not been inhibited (Figure 1 and 2). Instead vinblastine had shown dose dependent negative effect of percentage of inhibition of both the enzymes. This pilot study providing the outcome of Vinbalstine has to care enough for the patients of Diabetes and Gout during chemotherapy. But detailed further research evidences are required to confirm the same.

Figure 1: Alpha amylase Inhibitory effect of Vinblastine sulphate.

Figure 2: Xanthine Oxidase Inhibitory effect of Vinblastine sulphate.

References

