Q: What foods interact with Isoniazid (INH)?

A: Isoniazid is a medication used in the treatment of tuberculosis. It can be used to treat both active and inactive infections of tuberculosis. The usual dosing ranges from once daily to once weekly depending on what additional medications are added to the regimen. There is an extensive list of medications which can interact with INH. However, there are also several potentially significant interactions seen between INH and food. If taken with food there can be a marked reduction in the absorption of INH. One study found that the peak serum concentration of INH was 14.5 micrograms/mL if fasting and 4.4 micrograms/mL if fed. To prevent this interaction INH should be given 1 hour before or 2 hours after a meal. INH has been theorized to contain some minor monoamine oxidase inhibition which has been documented in a few patient cases. This theory is due to the structural similarity with iproniazid which has documented monoamine oxidase inhibition activity. Some of the symptoms reported following ingestion of foods high in monoamines, such as cheeses and red wine, included flushing of skin, palpitations, headache, conjunctival redness and mild increase in systolic blood pressure. An additional food interaction is with foods high in histamine or one of its precursors such as histidine. There have been at least 30 reports of patients who have had reactions with symptoms including flushing, palpitations, conjunctival redness, headache, nausea and puritis. Foods which have been implicated in causing this reaction include members of the Scomorbid fish family. Examples of these fish include skipjack, mackerel and tuna. The proposed mechanism of this interaction is that INH acts as a diamine oxidase inhibitor which converts histadine to histamine. The Scomorbid fish family has been found to have high concentrations of histadine due to bacterial break down of the fish if it is improperly stored. To prevent these uncomfortable symptoms in patients, it is recommended that they be counseled to avoid these specific fish for the duration of their therapy. As with any food interaction there is debate about the level to which patients should avoid foods high in monoamines and histamines. Due to the documented case reports, patients should at least receive counseling and attempt to avoid these types of foods for the duration of therapy. However, all patients should be advised about how to properly take the medication on an empty stomach due to the interference with absorption observed.

References:


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