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Effect of Aloe vera preparations on the human bioavailability of vitamins C and E.

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Source

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Abstract

There are no literature references describing the effect of consumption of Aloe vera liquid preparations on the absorption of water- or fat-soluble vitamins. There is a very large population worldwide which consume vitamins and many people also consume Aloe. Thus we report the effect of Aloe on the human absorption of vitamins C and E, the most popular vitamin supplements. The plasma bioavailability of vitamins C and E were determined in normal fasting subjects, with eight subjects for vitamin C and ten subjects for vitamin E. In a random crossover design, the subjects consumed either 500 mg of ascorbic acid or 420 mg of vitamin E acetate alone (control), or combined with 2 oz of two different Aloe preparations (a whole leaf extract, or an inner fillet gel). Blood was collected periodically up to 24 h after consumption. Plasma was analyzed for ascorbate and tocopherol by-HPLC with UV detection. There was no significant difference in the areas under the plasma ascorbate-time curves among the groups sincerely due to large differences within the groups. For comparative purposes the control area was 100%. The Aloe Gel area was 304%, and Aloe Whole Leaf 80%. Only Aloe Gel caused a significant increase in plasma ascorbate after 8 and 24 h. For vitamin E, the results for the relative areas were control 100%, Gel 369%, and Leaf (198%). Only the Aloes produced a significant increase in plasma tocopherol after 6 and 8 h. Both Aloes were significantly different from the control after 8 h. Aloe Gel was significantly different from the baseline after 24 h. The Aloes slowed down the absorption of both vitamins with maximum concentrations 2-4 h later than the control. There was no difference between the two types of Aloe.

The results indicate that the Aloes improve the absorption of both vitamins C and E. The absorption is slower and the vitamins last longer in the plasma with the Aloes. Aloe is the only known supplement to increase the absorption of both of these vitamins and should be considered as a complement to them.

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