

ANTIOXIDANT ACTIVITY IN HUMAN FAECES

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Resumen: Scarcely-absorbed antioxidants might reach the large bowel and exhibit antioxidant activity, opposing the action of reactive O species by bacterial and cellular metabolism and thus contributing to protection from oxidative damage-induced gastrointestinal diseases. This study was carried out to evaluate the antioxidant activity in the faeces of a group of healthy subjects on a freely-selected diet, and to look for possible associations with the intake of some macro- and micronutrients and food groups. Fourteen subjects recorded their food intake three times for a period of 2 d, each time collecting all the faeces passed during the next 24 h. Total antioxidant activity (TAA; mmol 6-hydroxy-2,5,7,8 tetramethylchroman-2-carboxylic acid (Trolox)/kg) of faecal suspensions was measured using the 2,2'-azinobis-(3-ethylbenzothiazoline-6-sulfonic acid radical cation (ABTS(.+)) decolorisation assay. The average TAA value of faeces was 26.6 (sd 10.2) mmol Trolox/kg wet faeces (range 7.5-50.5). The total amount of antioxidant equivalents excreted over 24 h, derived by multiplying the TAA by the amount of faeces passed over 24 h, was 3.24 (sd 1.51) mmol Trolox (range 0.92-5.82) and this was significantly correlated with the average 24 h intake of coffee red wine and particularly to the sum of coffee and red wine. In conclusion, the faeces of healthy subjects show detectable capacity to scavenge radical cations, suggesting that antioxidant activity occurs in the colonic lumen. Moreover, such activity seems at least in part to be related to dietary habits.