Phylogenetic profile of gut microbiota in healthy adults after moderate intake of red wine

SCOPE: There is growing interest in understanding how human colonic microbiota can be modified by dietary habits. We examined the influence of moderate red wine intake on the colonic microbiota of 15 healthy volunteers, related to the high concentration of polyphenols present in this beverage. The volunteers were classified into high, moderate, and low polyphenol metabolizers (metabotypes) due to their ability to metabolize polyphenols and the results were compared with that of five control (no wine intake) subjects.

METHODS AND RESULTS: We analyzed the composition, diversity, and dynamics of their fecal microbiota before and after 1 month of wine consumption. The 16S rDNA sequencing allowed detection of 2324 phylotypes, of which only 30 were found over the 0.5% of mean relative frequency, representing 84.6% of the total taxonomical assignments. The samples clustered more strongly by individuals than by wine intake or metabotypes, however an increase in diversity, after the wine intake, was observed.

CONCLUSION: The results of this study suggest an increase in the global fecal microbial diversity associated to the consumption of red wine, confirm the high variability of the microbiota from different individuals, and show the stability of their singular microbiota composition to small and short-term dietary changes.

Additional Info

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