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Dietary fibre - How inflammatory bowel disease patients should be advised in relation to dietary fibre intake?

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The problems faced by Inflammatory bowel disease patients in eating a normal balanced diet are well recognised. There appears to be confusion about whether or not these patients should regulate their dietary fibre intake. While randomised controlled intervention studies have been done with a number of dietary fibre sources, no clear pattern has emerged. Part of the problem may be that many intervention studies used dietary fibre supplements that were not pure in composition. In its original definition, dietary fibre consisted only of plant cell walls, and these still comprise a major part of this group. Many of the dietary fibre supplements tested in IBD patients contained mixtures of different types of plant cell walls which might be expected to have contrasting effects, as well as containing other components now included in the definition of dietary fibre. Additionally, there was often variability in the disease states of individuals recruited into the study. Not considered in these older assessments, however, is the possibility that there were genotype specific effects. Over a number of years, we have recruited a cohort of IBD patients, and asked about their self-assessed dietary tolerances and intolerances. This work has then been assessed in relation to genotype. In a number of cases, we have been able to identify specific effects, either beneficial or adverse, associated with specific genetic variants. Of particular interest is the strong benefit shown by consumption of Jerusalem artichoke by individuals carrying a variant in the forkhead box O3 (FOXO3) gene. This food item is an excellent source of the dietary fibre, inulin, which is known to have prebiotic effects, affecting the composition of the colon microbiome. It also became apparent that a number of IBD patients avoided whole grain foods, such as barley, rye and wheat, especially wheat bran. These negative associations showed a link with genetic variants in the human leukocyte antigen (HLA) region in some cases. However, it was also clear that a number of individuals who avoided such foods did not carry a variant genotype, and often that their avoidance was based on advice from others, rather than direct experience. This is unfortunate advice, since there is good evidence to suggest that such dietary fibre sources can protect against colorectal cancer. Given the high prevalence of this type of cancer in IBD patients, increasing rather than decreasing this group of foods may have long term benefits that might not be apparent in the short term.

Biography

Lynnette R Ferguson completed her DPhil (Oxon.) at The University of Oxford, UK, then returned to a Post-doctoral position at The University of Auckland, where she had done her undergraduate degrees. She successfully competed several grants before being offered a tenured position with the Auckland Cancer Society Research Centre at The University of Auckland. In 1990, she was selected to establish a new Discipline of Nutrition at the University, where she retains a half time position alongside her Research Centre appointment. She has successfully supervised more than 50 Post-graduate students for thesis completion.

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