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How happy tummies could improve cancer treatment

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Having a happy gut, containing the right mix of bacteria, is being linked to more and more surprising health benefits, ranging from your heart to your mental health. And here's another one: it could improve cancer treatments.



That is the conclusion of researchers from five clinical centres in the UK and across Europe studying our gut microbiome – the population of bacteria in our digestive system.

Their study gathered the largest group of patients with melanoma – a type of skin cancer – and matched samples of their gut microbiome.

Researchers did genetic sequencing of the bacteria to see if there was a link between its composition and the response to immunotherapy.

This cancer treatment works by helping the immune system recognise and attack cancer cells. But less than half of patients with melanoma respond positively to immunotherapy, so finding new strategies is crucial.

Our microbiome can be altered through dietary changes, faecal transplantation and next-generation probiotics. This alteration in turn modifies the microbiome's action on the immune system.

Understanding the characteristics of the microbiome could enable doctors addressing cancer to alter a patient's before starting treatment to improve its effectiveness.

“Preliminary studies on a limited number of patients have suggested the gut microbiome, as an immune system regulator, plays a role in the response of each patient to cancer immunotherapy, and particularly in the case of melanoma,” says first author Dr Karla Lee, from the Department of Twin Research and Genetic Epidemiology at King's College London. “This new study could have a major impact on oncology and medicine in general.”

Results confirmed a complex association as it involves different bacterial species in different patient groups. Three types of bacteria (*Bifidobacterium pseudocatenulatum*, *Roseburia* spp and *Akkermansia muciniphila*) seem to be associated with a better treatment response.

“This study shows the chances of survival based on healthy microbes nearly doubled between subgroups,” says Professor Tim Spector, also from King's College London.

“The ultimate goal is to identify which specific features of the microbiome are directly influencing the clinical benefits of immunotherapy to exploit these features in new personalised approaches to support cancer immunotherapy. But in the meantime, this study highlights the potential impact of good diet and gut health on chances of survival in patients undergoing immunotherapy.”

Co-author Professor Nicola Segata from the University of Trento in Italy said: “Our study shows that studying the microbiome is important to improve and personalise immunotherapy treatments for melanoma.”

Because of microbiome variations from person to person, more studies are needed, but it's an exciting start.

Study highlights the potential impact of good diet on survival

Ever since she hit headlines last week, I've been thinking about that big-hearted ex-social worker who scooped £115million and has since become addicted to giving away money to good causes.

The joy that 55-year-old Frances Connolly is getting from frittering millions away on charities and splashing out on people in need must be worth so much more than all the vintage bubbly she can drink, or designer frocks she can wear.

St Frances should be made the patron saint of lotteries immediately!

I've often wondered what I would do if I won the lottery (maybe a name change, face transplant and one-way ticket to Brazil before The Dark Lord gets home from school?).

But while I wait for my turn to become rich beyond my wildest dreams – or even just moderately loaded would do – I console myself with the knowledge that the cash I spend on a National Lottery ticket goes to good causes. St Frances might have given £11million away to charity in a year, but all of us National Lottery players raise an incredible £30million for good causes every week.

Not just good causes but life-changing causes. Take Vicky Turner, who lost her baby daughter Isabel to leukaemia in 2015, but also almost lost everything financially when she couldn't work while her child was seriously ill. Turning her personal tragedy into a lifeline for other bereaved parents in need of financial help, Vicky set up The Isabel Baker Foundation and backed a successful campaign in Parliament for help with children's funeral costs. Vicky is just one of the very deserving recipients of National Lottery funding, and has also been nominated in this year's National Lottery Awards.

The awards are a chance to celebrate the ordinary people who have done extraordinary things with the help of National Lottery funding. If you'd like to nominate someone this year, simply complete an entry form at lotterygoodcauses.org.uk/awards. All nominees must work or act for a National Lottery-funded organisation or have had National Lottery funding, and entries must be in by June 1, 2022.

In the meantime, I'm going to check the weather this time of year in Brazil just in case...

Email me at siobhan.mcnally@mirror.co.uk or write to Community Corner, PO Box 791, Winchester SO23 3RP.

Please note, if you send us photos of your grandchildren, we'll also need permission of one of their parents to print them... Thanks!