Dr Georges MOUTON MD

Functional Medicine

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VOUS DEVEZ COMPRENDRE TOUTES LES IMPLICATIONS DU MICROBIOME

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Understanding the microbiome: Emerging biomarkers for exploiting the microbiota for personalized medicine against cancer.

Rajpoot M[1], Sharma AK[2], Sharma A[3], Gupta GK[4].

Author information

1 Department of Biotechnology, Maharishi Markandeshwar University, Mullana, Ambala, Haryana, 133207, India.
2 Department of Biotechnology, Maharishi Markandeshwar University, Mullana, Ambala, Haryana, 133207, India. Electronic address: anibiotech18@gmail.com.
3 Department of Biochemistry and Molecular Biology, Mayo School of Medicine, Rochester, MN, 55905, USA.
4 Department of Pharmaceutical Chemistry, M. M. College of Pharmacy, Maharishi Markandeshwar University, Mullana, Ambala, Haryana, 133207, India.

Abstract

The human body is a home to more than 1 trillion microbes with a diverse variety of commensal microbes that play a crucial role towards the health of the individual. These microbes occupy different habitats such as gut, skin, vagina, oral etc. Not only the types and abundance of microbes are different in different organs, but also these may differ in different individuals. The genome of these microbiota and their ecosystem constitute to form a microbiome. Factors such as diet, environment, host genetics etc. may be the reason behind the wide microbial diversity. A number of studies performed on human microbiome have revealed that microbiota present in healthy and diseased individuals are distinct. Altered microbiome is many a times the reason behind the overexpression of genes which may cause complex diseases including cancer. Manipulation of the human microbiome can be done by microbial supplements such as probiotics or synbiotics, diet or prebiotics and microbial suppression strategies using antibiotics. Recent advances in genome sequencing technologies and metagenomic analysis provide us the broader understanding of these commensal microbes and highlighting the distinctive features of microbiome during healthy and disease states. Molecular pathological epidemiology (MPE) studies have been very helpful in providing insights into the pathological process behind disease evolution and progression by determining the specific etiological factors. New emerging field of research targets the microbiome for therapeutic purposes by which personalized medicines can be made for treating various types of tumors. Screening programmes might be helpful in identifying patients who are at the verge of developing cancer and in delivering appropriate approaches according to individual risk modes so that disease could be prevented.

KEYWORDS: Biomarker; Cancer; Flora; Microbiome; Personalized medicine

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"Le corps humain abrite plus de mille milliards de microbes, avec une grande variété de microbes commensaux qui jouent un rôle crucial pour la santé de l'individu. Ces microbes occupent différents habitats tels que les intestins, la peau, le vagin, la bouche, etc.

Non seulement les types et l'abondance des microbes sont différents selon les organes, mais ils peuvent aussi varier selon les individus. Le génome de ces microbiotes et leur écosystème constituent ensemble un microbiome.

De nombreuses études réalisées sur le microbiome humain ont révélé que le microbiote présent chez les individus sains et chez les malades sont distincts.

Un microbiome altéré est souvent à l'origine de la surexpression de gènes susceptibles de provoquer des maladies complexes, notamment le cancer.

La manipulation du microbiome humain peut être effectuée à l'aide de suppléments microbiens tels que des probiotiques ou des symbiotiques, par l'alimentation, via des prébiotiques, ou grâce à des stratégies de suppression microbienne à base d'antibiotiques.

Les progrès récents dans les technologies de séquençage du génome et d'analyse métagénomique nous fournissent une meilleure compréhension des microbes commensaux et mettent en évidence les caractéristiques distinctives des microbiomes en fonction de l'état de santé ou de maladie. "

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