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Letter to the Editor

Neurodegenerative disorders, gut human microbiome and diet: future research for prevention and supportive therapies

Dear Editor,

Customized drugs, individual risk assessment on genetic basis and precision medicine were topics of great scientific interest in the last two decades[1]. Genetic research has also been applied to neurodegenerative diseases, such as multiple sclerosis (MS): the study of Tamam et al[2] highlighted that men with MS and carriers of APOE ε[4] showed a severe form of the disease. The authors outlined the prognosis of MS adding valuable information on clinical choices through genetic study. Starting from the study of Tamam et al[2] and considering that only 1% of our genetic heritage is human, while the remainder is predominantly of bacterial origin[3], we questioned if it will have to focus on the study of the microbiome for future researches in neurodegenerative diseases. Technological advances and application of sequencing in microbiome research allowed identification first clues about the role of microbes on neurological health, as demonstrated by the scientific evidences[4]. In MS, Pennisi et al[5] showed an increase in oxidative stress markers, suggesting that use of molecules against oxidative stress should contribute to neurodegenerative prevention. A diet therapy, without junk or highly processed food, but rich in organic foods containing fibers and antioxidants, such as polyphenols, is able to increase the antioxidant capacity of the blood[6,7], ensure a balanced intestinal flora and a positive modulation of immune response[8]. Since in MS are present alterations of microbiota, such as reduction and alteration of bacteria species, that cause immune-modulatory disorders[2], it could useful associate anti-inflammatory, antioxidant diets and probiotic supplements with conventional therapy.

Conflict of interest

The authors declare no conflicts of interest.

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