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Sommario/riassunto

We have entered a new era where some concepts of the complex community of microorganisms (microbiota comprising bacteria, fungi, viruses, bacteriophages and helminths) are being re-discovered and revisited. Microbiota and human interaction is not new; they have shared a long history of co-existence. Nevertheless, the opportunities to understand the role of these microorganisms in human diseases and to design a potential treatment were limited. At present, thanks to development of innovative and cutting-edge molecular biological and microbiological technologies as well as clinical informatics and bioinformatics skills, microbiome application is moving into clinics. Approaches to therapy based on prebiotics, probiotics and lately on fecal microbiota transplantation has revolutionized medicine. Microbiota outnumbers our genes and is now regarded as another organ of the body. The gastrointestinal tract and gut microbiota display a well-documented symbiotic relationship. Disruption of intestinal microbiota homeostasis—called dysbiosis—has been associated with several diseases. Whether dysbiosis is a cause or consequence of disease initiation and progression still needs to be investigated in more depth. The aim of this book is to highlight recent advances in the field of microbiome research, which are now shaping medicine, and current approaches to microbiome-oriented therapy for gastrointestinal diseases.

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