



Microbiota and bone health

Summary press release Paris, 23 April 2018

Microbiota contribute to bone mass regulation.

Arguments in favour of a link between the microbiota (micro-organisms in the intestine) and bone health are relatively recent. The results from preliminary studies on this topic were presented at the World Congress on Osteoporosis in Krakow on 21 April. They demonstrate that the microbiota contributes to bone mass regulation.

Promising preliminary research

The role of the microbiota is best known in inflammatory diseases of the intestine, colorectal cancer, diabetes, obesity, auto-immune diseases, atherosclerosis, auto-immune diseases and even autism or depression.

A field of research emerged recently on the relationship between the microbiota and bone health. This congress gave Prof. René Rizzoli the opportunity to discuss this topic and to demonstrate “the innovative and particularly promising aspect of recent studies of the microbiota and bone health”.

A positive relationship between the microbiota and bone at all stages of life

For growth

A study demonstrated that young mice lacking in a microbiota had growth and bone development disorders. The length and thickness of the femur were reduced. However, if probiotics from the Lactobacillus family are given (Lactobacillus plantarum) to these animals, their growth becomes comparable to that of normal animals.

If this model were to be confirmed, this would provide particularly interesting perspectives for the treatment of malnutrition and bone growth disorders in malnourished children.



For bone loss

Just like the microbiota is modified with obesity, the microbiota is modified with osteoporosis. A pilot study conducted over 12 weeks in Chinese subjects showed that inulin and oligo-saccharides enrichment of dairy products potentiates the beneficial effect of milk on bone resorption.

The initial results suggest that intestinal bacteria anomalies are probably involved in the weakening of bone.

And the future?

New research will enhance the link between diet and health, will provide a better understanding of an individual's sensitivity to a dietary model or to a medical treatment, and may, one day, enable customized treatments to be offered, or even enable food to be used a vector for prevention or treatment. Probiotics in fermented dairy products (yoghurt, fermented milk, cheese) are a perfect example of this, and are sources of natural, accessible and varied probiotics.