Something more to say about calcium homeostasis: the role of vitamin K2 in vascular calcification and osteoporosis.

Abstract

BACKGROUND:
Vascular calcification and osteoporosis share similar etiopathogenetic mechanisms. Vitamin K2 deficiency could be responsible of the so-called "calcium paradox", that is the lack of calcium in the bone and its storage in the vessel wall. These events may have clinically relevant consequences, such as cardiovascular accidents, and bone fractures.

AIM:
To review the biological function of vitamin K2 metabolism, the main factors related to its deficiency and the consequent clinical significance.

DISCUSSION:
Vitamin K2 is essential for the function of several proteins, involved in the maintenance of the normal structure of arterial wall, osteoarticular system, teeth, and for the regulation of cell growth. It has been demonstrated to have a pivotal role in the inhibition of vascular foci of calcification, and in the regulation of calcium deposition in the bone. Vitamin K2 deficiency is often subclinic in a large part of healthy population. This deficiency is related to the interaction of various factors, such as the reduced dietary intake, the alteration of intestinal absorption or production, with a possible role of intestinal microbiota and the increased consumption at the vessel wall.

CONCLUSIONS:
Vitamin K2 deficiency has recently been recognized as a protagonist in the development of vascular calcification and osteoporosis. Data reported so far are promising and, dietary supplementation seems a useful tool to contrast these diseases.

References:

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TABLETS
A Genetically Recommended Calcium Nutriture* with added benefit of Vitamin K2-7