THE PUBLISHING HOUSE
OF THE ROMANIAN ACADEMY

MAGNESIUM DEFICIENCY SYNDROME

Corneliu D. ZEANA

Romanian Medical Association

Accepted July 31, 2018

A new syndrome expressing the magnesium deficiency is described. The association of spasmophilia, mitral valve prolapse, generalizedconvulsions in infancy, skeleton deformities, heart arrhythmias and urolithiasis defines this syndrome. Familial predisposition is notable. Good results are obtained by magnesium supplementation of long duration.

Keywords: magnesium, spasmophilia, convulsion in infancy, heart arrhythmia.

Magnesium is one of the most important mineral in biology. More than 300 enzymes are activated by magnesium in humans. During the last hundred years and especially within the last decades, the Magnesium input dropped dramatically, to more than half of the quantities ingested before. Responsible factors for this reduction of magnesium concentration in the food are: industrialization of the agriculture, especially excessively use of chemicals, irrigations, acid rains, followed by the semiindustrial food preparation. We entered the era of generalized magnesium deficit[1]. As a consequence of the magnesium carence, beyond the limits of the biological compensatory mechanisms, some manifestations expressing the magnesium deficit become manifest: in the vegetal world (some trees have pale leafs, even yellow, due to less than normal chlorophyle content), animal (cow tetany) and humans. Jean Durlach was the first that in established a link between magnesium deficit, latent tetany and mitral valve prolapse (Durlach syndrome)[2].

We describe a new syndrome manifest in the children of the magnesium deficient mothers suffering from spasmophilia and mitral valve prolapse (Durlach syndrome). These women are magnesium looser, meaning that they have a diminished capability of conserving the magnesium in the body. This trait is probably inherited because cluster of such cases are encountered in these families, especially spasmophylia, mitral valve prolapse and stress sensitivity. Their children have been followed by us from the birth to the adulthood. They developed generalized convulsions during the first year of age, rarely after this age, very few up to three years, and no longer manifest thereafter so that epilepsy was ruled out. Convulsions were triggered by high fever, brisk noise, but also without identifiable cause. These children presented somatic stigma of magnesium deficit, especially chest deformities: plat thorax, flat dorsal curvature, rarely funnel chest. In the late childhood and adolescence they develop spasmophylic episodes. Palpitations are a common complaint. Mitral valve prolapse clearly visualized by echocardiography is evident but rarely of severity. Later, in adulthood, urolithiasis is frequent, with or without urinarystones elimination. Three cases with the above exposed manifestations have been described: Two women, aged 42 and 44 respectively and one male, 38 years old. Satisfactory resultsare obtained with magnesium supplementation of log haleine. In the majority of cases, under magnesium supplementation the mitral valve prolapse is ameliorated to the resumption of the normal aspect of the valve.

REFERENCES

1. Zeana C. Magneziul, biologie, clinică, tratament, Ed. Enciclopedică, Bucureşti, 1994, p. 64–92.
2. Durlach J. Magnesium in clinical practice. John Libbey, London, 1985, p. 103–106.

Proc. Rom. Acad., Series B, **2018**, *20(3)*, p. 217–218