

STUDY OF BONE MINERAL DENSITY IN ADOLESCENT PREGNANTS

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OBJECTIVE: It is known that development of pregnancy in women tends to definite changes of bone system and is manifested in decrease of bone mineral density which can cause osteopenia syndrome and in some cases development of osteoporosis. There are definite preconditions for development of osteoporosis in pregnancy. First of all it concerns the influence of caused by pregnancy functional reorientation of endocrine system on the changes of calcium and phosphoric metabolism. Should be noted that influence on the bone system, caused by pregnancy, mainly is expressed by the breaches of remodeling process balance in relation with resorbition activation, which is a reason of osteopenia development. Especially important it is in the case of adolescent (up to 20 years old) pregnant. Last data for USA shows that there was over than 1000 live births per 10 000 white females in the age of 15 -19. This contingent especially needs the bones mineral density monitoring during pregnancy and not only because in many cases the adolescent mothers have pure dietary habits and low calcium intake, but also because they are going at the same time through the period of accelerant growth and pregnancy. This combination may be risky for their bones health. Not too many studies are available for this group and comparing of their bones status and age-matched control might be very informative. Proceeding from above mentioned, the aim of present study was to research the bone mineral density in adolescent pregnant.

MATERIALS AND METHODS: The study was carried out on the pregnant women aged from 17 to 20 years (n= 32). This group was compared with age-matched control group (n = 12). For assessing of bones status were used measurements of speed of sound (SOS) through bone at three sites of non-dominant extremities (distal 1/3 radius, midshaft of tibia and proximal phalanx of the third finger) using the Sunlight Omnisense Ultrasound Bone Sonometer. For all patients were filled out the questionnaires in order to detect the risk factors of osteopenia. Results were interpreted in accordance with criteria adopted by the World Health Organization (WHO) by T-score.

RESULTS: In the group of adolescent pregnant the mean bone mineral density was decreased in 75% of patients (n=23), reflecting different degrees of osteopenia from moderate to severe (T-score distal 1/3 radius -1.7 ± 0.1 , midshaft of tibia -1.9 ± 0.08 ; proximal phalanx of the third finger -1.8 ± 0.1) and signs of osteoporosis in some cases. In control age-matched group of women decrease of bone mineral density was not so significant and reflected osteopenia in 24% of patients (n=3). In this group of patients T-score at the same measurement areas was -1.4 ± 0.07 ; -1.5 ± 0.06 ; -1.3 ± 0.06 respectively.

DISCUSSION AND CONCLUSIONS: In both groups in some cases we have found decrease of bone mineral density, but in the group of adolescent pregnant this decrease was more

severe and more strongly marked in comparison with the patients of control group. Presented above data is only a small part of planned wide research and has for an object to show the importance of mentioned question. It is possible to say with certainty that bone density monitoring during the pregnancy will give a possibility to avoid the problem connected with calcium deficiency of both mother and fetus.

The question has one more aspect: prevention of osteopenic complications during the pregnancy is a fairly effective approach for osteoporosis prevention in menopause since directs the attention of young woman on the necessity of such prevention. Such prevention might be considered as future post-menopause osteoporosis global prevention.

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