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AbstractBook

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ASSESSMENT OF THE RISK EXAMINATION AND THERAPY INITIATION USING THE RUSSIAN NATIONAL REGISTRY FOR THE PATIENTS ENROLLED INTO FRACTURE LIAISON SERVICES

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Objective: Fracture Liaison Services (FLS) aimed to prevent secondary fragile fracture are established in many countries. For today 16 FLS have been established in Russian Federation. A common national FLS patients' database was created for the unified data to analyze of FLS effectiveness and reveal the main problems of their organization. This study aimed to evaluate the effectiveness of the risk examination and therapy initiation in several FLS in RF using the registry data. **Methods:** In June 2019, the Russian Association on Osteoporosis started a project for the development of a registry of low energy fractures in patients recruited to FLS (PROMETHEUS Registry). Today 6 FLS enter the patients' data in it. To assess the effectiveness of patient evaluations and initiation of the therapy, we used the criteria of key performance indicators [1]. **Results:** As of 10.03.2021, data on 387 patients were introduced in the register, mean age is 71.95±10.23 y. Among them, 46.25% received a hip fracture, 20.41% vertebral fractures, 16.80% proximal humerus fractures, the rest had fractures of other localizations. The risk of fractures was assessed in all the patients (100%). FRAX assessment was calculated in 95,61%, a high risk was found in 160 (41.18%). DXA was performed in 152 (39,28%) patients. Among those patients who needed this examination to determine the risk of subsequent fractures after other assessment it was performed in 63,24% cases. The risk of falls was assessed in 100% of cases. It was determined to be high in 343 (88.63%) patients. Various measures to reduce this risk were recommended in 304 (88.63%) patients, educational programs were conducted in 299 (87.17%) cases. The appointment of antiosteoporotic treatment was performed in 241 (62.27%). In 12 (3.10%) patients the risk of subsequent fractures was determined as low. The most common reasons for lack of treatment recommendation were the presence of contraindications 70 (18.09%), among them the most common was hypocalcemia (63 (16.27%) persons), and the need for further examination 31 (8.01%). **Conclusion**: The FLS Registry is a very important tool to improve care for patients with osteoporotic fractures and to reveal the problems in the organization of the medical care. Acknowledgements The PROMETEUS Registry has received support from Amgen Grant for Russian Association on Osteoporosis.

Reference: 1. Javaid MK, et al. Osteoporos Int 2020;31:1193.

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STATE OF THE BONE TISSUE IN CHILDREN DURING THE GROWTH SPURT TAKING INTO ACCOUNT THE VDR GENE POLYMORPHISM

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Objective: The research is aimed at establishing the specifics of the structural and functional state of bone tissue in children during the growth spurt with respect to the BSML polymorphism of the VDR gene.

Methods: 205 children aged 9-17 years were examined. They divided into three groups: group I 50 children whose height increased by 8-12 cm for the current year; group II included 46 children whose have grown to greater than 12 cm in present year; group III included 109 children with no growth spurt. All 205 children were evaluated with medical history, physical exam, and calcaneal bone density measurement with Sonost-2000. Bone density with DXA measured in 32 children. Z-score <-2.0 considered significantly low bone density in immature skeleton.

Results: A decrease in the BMD as observed through UD was diagnosed in 24 children (48.0%) of group I, the Z-score in the group was -1.8 [-0.7; -3.1];in 28 children (60.87%) of group II, the Z-score was-1.96 [-0.8; -2.4]; in 43 children (39.45%) of group 3, Z-score was -1.68 [0.4; -3.2] ($p<0.05$).DXA was used to examine 32 children with a decrease in BMD. In 18 of them (56.25%) a decrease in BMD was diagnosed as shown by ultrasound. The number of children with a decreased BMD in group I reached 38.9% while in group II it was 50.0% ($p<0.05$). The following variants of polymorphisms of BSML were found: a normal genotype variant was found in 48.76% of children; a heterozygous mutation was detected in 41.32% of children; and 9.92% of children showed a homozygous mutation. The most common heterozygous mutation of the BSML polymorphism of the VDR gene with a reduced BMD occurs