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A COMPREHENSIVE APPROACH TO FIXED PROSTHODONTIC TREATMENT IN POSTMENOPAUSAL WOMEN

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Keywords: postmenopause; systemic osteoporosis; hormone replacement therapy; fixed prosthodontics; bone mineral density

Introduction:

Recent studies confirm the influence of systemic osteoporosis on the condition of the dentoalveolar system. In postmenopausal women, a rapid decrease in bone mineral density (BMD) is observed due to estrogen deficiency. The role of hypoestrogenism in postmenopausal women has been identified in the development of systemic osteoporosis as well as **pathological changes in periodontal tissues and dental hard tissues**. It has been noted that systemic osteoporosis caused by estrogen deficiency in women during the climacteric period extends to the dentoalveolar system. This manifests as a reduction in the height of the interdental alveolar septa, the appearance of osteoporotic lesions in the body of the mandible, and decreased density of the alveolar bone. Assessment of the periodontal status in postmenopausal women with osteoporosis revealed a greater depth of periodontal pockets and more significant clinical attachment loss compared with women of the same age without osteoporosis. In particular, hormonal changes associated with menopause are known to affect oral health due to alterations in sex hormones such as estrogen, progesterone, and testosterone. These hormones influence the secretion of pro-inflammatory cytokines involved in bone resorption. Moreover, the presence of estrogen receptors in the oral mucosa determines its

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sensitivity to hormonal fluctuations, which leads to increased inflammation in periodontal tissues. Hormone replacement therapy (HRT) is widely used for the prevention of postmenopausal osteoporosis and the correction of menopausal disorders. Since the condition of the alveolar bone plays a key role in the pathogenesis of periodontal diseases, a number of studies have examined the relationship between the use of HRT and the condition of periodontal tissues.

Objective of the study: To optimize prosthodontic treatment methods using fixed orthopedic constructions in postmenopausal women in order to increase their service life.

Research Methods: Dental examination methods were employed, including clinical dental examination, panoramic and intraoral radiography, blood analysis for Ca^{2+} levels, and determination of estradiol levels in blood serum.

Results:

Clinical and laboratory studies demonstrated that in postmenopausal women, after 6 months of comprehensive therapy (calcium supplementation combined with hormone replacement therapy, HRT), both subjective symptoms and the objective condition of oral tissues approached the state observed in women during the perimenopausal period. A decrease in calcium leaching from bone tissue was observed, which may indicate a reduction in skeletal bone resorption processes. The use of calcium preparations contributes to the restoration of calcium levels in bone tissue, while HRT compensates for estrogen deficiency, thereby regulating calcium transport to bone tissue and the process of bone remodeling. Estradiol levels increased and approached those of the control group. Hormone therapy compensated for hormonal deficiency and helped mitigate its consequences, indicating the effectiveness of hormonal correction.

Conclusions:

Comprehensive orthopedic treatment using fixed prosthodontic constructions

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in combination with calcium supplementation and hormone replacement therapy in postmenopausal women increases the effectiveness of prosthodontic treatment and prolongs the service life of fixed prosthetic constructions.

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