Oral and periodontal changes associated with sex hormone levels

Recent years has dramatically improved the perception for action of sex steroid hormones in conditions of health and disease. While there is no doubt about the importance of sex hormones in reproductive endocrinology, there are accumulated a large body of evidence that suggest a much wider role of these hormones in the human body.

Endocrine imbalance and consequential variations in levels of sex hormones that occur in certain periods of life are common examples of systemic conditions that may lead to the involvement of gingival health and overall periodontal complex. There are several types of gingival disease in which the modification of sex hormones is considered as one of the initial or risk factors; these types of gingival alteration associated with physiological and hormonal changes are characterized by inflammatory reactions of non-specific type predominantly expressed in vascular components which objectively lead to the emergence of significant bleeding tendency, even in circumstances where oral hygiene remains unchanged.

Of particular importance to us was recognizing and identifying the effects of hormonal variations on oral cavity, especially on periodontal tissue complex in the postmenopausal period. The decrease in estrogen levels during the first postmenopausal decade lead to rapid alveolar bone loss as a result of accelerated and increased bone resorption and decreased bone formation process. Estrogen deficiency is also associated with greater loss of the rest supporting tissues - cement and periodontal ligament, unlike the situation with normal estrogen levels.

Special incentive and purpose of our study, despite determining periodontal status, extent of alveolar bone destruction, determining the level of sex hormones, was the ability to show the type of pathohistological changes and immunohistochemically to verify the presence of hormone receptors in gingiva as the target tissue for the action of the sex steroid hormones. The results we got and will be presented in this lecture, largely coincide and are consistent with the findings of scientific researches and literature, which is another proof of the importance and role of sex hormones on periodontal health in the postmenopausal period.