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Features of Dental Status during Pregnancy, the Condition of Hard Dental Tissues in Women during Pregnancy

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Abstract: Features of dental status was studied and determined in pregnant women. The condition of hard dental issues was manifested in women during their pregnancy. There were conclusions about to starting of new research by comparing searches of the scientists. There was identified the role of microelements such as calcium, magnesium and phosphorus in pregnant women.

Keywords: dental health, enamel solubility, focal demineralization, hypocalcemia and hypomagnesemia, complex cariogenic situation, salivation.

The high prevalence and intensity of dental diseases in our country suggests the particular relevance of developing preventive measures among various populations (E.M. Kuzmina, 1995,2000,2005). An increase in the prevalence and intensity of the most common dental diseases - dental caries and inflammatory periodontal diseases, is observed during pregnancy and the immediate period after childbirth. This has a negative impact on the dental health and quality of life of a woman during this period. Therefore, research aimed at preventing these diseases is of particular relevance.

A large number of works are devoted to identifying the reasons for the more active course of the carious process during pregnancy (I.D. Ermakova, 1996; V. Yu. Doroshina, 1997; O. A. Pavlovskaya, 1999; R. R. Karimov, 2001; M. Yu Pokrovsky, 2002; V. S. Gorislavets, 2003; V. F. Nosova-Dmitrieva, S. A. Rabinovich, 2003; O. B. Levakhina, 2006 ; S. M. Tolmacheva, 2006; L. Baccaglini , 1998 ; D. Blagojevic , 2002;).

At the same time, it should be noted that some authors (N.K. Alekseeva , 1964; V.I. Zenovsky , 1986) deny the influence of pregnancy on the increase in caries incidence rates. According to their observations, dental caries occurs equally often in both non-pregnant women and women with a physiological pregnancy.

However, in the studies of A.F. Kasibina (1973), L.A. Axmit (1978), M.K. Durdyniyazov (1987), S.P. Tarmaeva (1989), V.E. Sklyar (1995) found that pregnancy leads to an increase in the incidence of dental caries. Dental tissues during pregnancy, which is based on an increase in enamel solubility.

S. V. Tarmaeva, 1989, believes that throughout pregnancy, both physiological and during its complicated course, there is a significant increase in enamel solubility by 18%.

V.N. Nasedko (1987) also noted that during pregnancy the resistance of hard dental tissues decreases.

A comparative analysis of the state of the oral cavity in pregnant and nulliparous, non-pregnant women showed significant differences in the increase in the incidence of focal demineralization of tooth enamel in pregnant women. I.Ya. Butane (1989) also considers pregnancy a risk factor for the occurrence of carious lesions and observed a high prevalence of focal demineralization from 68.9% to 76.8%. Similar conclusions were made by Gulsow (1966), Kleinberg (1974), and Konig (1984).

In the works of L.A. Aksamit (1978) showed an increase in the prevalence of focal demineralization from 23% to 63%, and intensity - from 1.46 to 4.5 white spots, respectively, during normal and pathological pregnancy.

At the same time, Yu.G. Chumakova et al (1995) demonstrated that during pregnancy the intensity of focal demineralization averaged only 0.25 by the second trimester and 0.32 foci of demineralization by

the third trimester.

However, according to the results of research by M.Yu. Pokrovsky (2002), chalky spots were noted already at the first examination in 23.7% of pregnant women, while the number of affected teeth was 5.8 ± 1.0. During the observation period, these figures increased: in the second trimester - up to 28.9% and 5.6±0.9; in the third trimester - 32% and 5.9±0.9, after childbirth 32% and 4.3±0.9.

I.D. Ermakova (1993) found that the incidence of caries in pregnant women is 3.5 - 4 times higher than in non-pregnant women. Moreover, the author notes a higher incidence of caries in pregnant women suffering from toxicosis of the first half.

According to V. Yu. Doroshina, 1998, already in the early stages of pregnancy, both in physiological and in complicated cases, dental status deteriorates. The intensity of focal demineralization increases, the magnitude of which in women of all ages was higher on the eve of childbirth than at the beginning of pregnancy. It should be noted that according to O. B. Levakhina (2004), focal demineralization of tooth enamel in pregnant women was almost resistant to conservative treatment and led to the formation of a carious defect.

A number of researchers (Cohen, 1969; Kunzel, 1970; L.A. Axmit , 1978; I.Ya. Butane, 1989) believe that the most important etiological factor in the occurrence of changes in the oral cavity in pregnant women is the deterioration of the hygienic condition.

Most authors emphasize the important role of hygienic oral care during pregnancy. Thus, according to I.Ya. Butane (1989) and S.V. Tarmaeva (1989), the hygienic condition of the oral cavity in pregnant women tended to worsen during pregnancy and the authors concluded that an increase in the amount of plaque affects the occurrence of demineralization enamels.

A number of domestic and foreign authors explain the occurrence of dental caries in pregnant women by a violation of mineral metabolism in the woman's body (A.R. Walker, 1972; D. Beloca, M. Gajic, 1990; I.D. Ermakova, 1996; N. Sager, 1998; E.N Saltykova, 1998; V. V. Korzhova, V. Yu. Doroshina, 1999; V. B. Nedoseko, I. L. Gorbunova, 2001; O. B. Levakhina, 2004; J. Chlapowska et al., 2004). The ratio of the Ca /P coefficient is the main one for explaining the processes of mineralization and demineralization of tooth enamel and allows us to determine the patterns of the occurrence of a cariogenic situation.

Data on the content of calcium, magnesium and phosphorus in the saliva and blood serum of pregnant women indicates that hypocalcemia and hypomagnesemia occur with increasing pregnancy. This is explained by the deficiency of these macro-elements due to the increasing costs of fetal development and the lack of their nutritional intake into the body. During pregnancy, in the hard tissues of the tooth, demineralization processes prevail over remineralization processes, i.e. Impaired enamel remineralization is a major factor in the pathogenesis of dental caries in pregnant women. Kravchenko O.V. (2007) determined that the recovery time of dental enamel biopsy sites when tested in vitro, in pregnant women average 5-7 days, which is longer than in the non-pregnant group (2-3 days). The resistance of enamel to caries according to the standard shade scale in pregnant women is on average 50-70%, in non-pregnant women - 30%.

The works of E.M. Kuzmina, V.Yu. Doroshina, 1997, revealed a decrease in the concentration of calcium and inorganic phosphates in saliva, which confirms the presence of a complex cariogenic situation in the oral cavity of a pregnant woman.

L.Ya. Rozhinskaya, 1999 also emphasizes that restoration of calcium homeostasis in a pregnant woman is complicated by the fact that during pregnancy there is a redistribution of calcium between the mother and the fetus. This was confirmed by the works of A. T. Kumarbaeva , B. T. Izakova , 2003, who, when studying the mineral composition of the blood, found that the concentration of calcium in the blood of primigravidas was 1.9 ± 0.1 nmol / l, and in repeat pregnant women - 1.7±0.1 nmol /l., while its amount decreased after childbirth.

Assessing the changes in salivary flow rate, buffer capacity, calcium and phosphorus content that occur

during pregnancy, F. Dabanodlu et al., 1998, revealed a significant decrease in buffer capacity and an increase in phosphorus concentration. The authors believe that the relative decrease in buffer capacity during pregnancy may increase the risk of developing dental caries and enamel erosion.

Yu. G. Chumakova, K. N. Kosenko (1995) note that during pregnancy the pH of saliva decreases to 4.5-5.5, which is an indicator of the predominance of demineralization processes over remineralization.

The literature contains data on changes in the nature of salivation and the biophysical and biochemical parameters of saliva in the second half of pregnancy: there is a shift in pH to the acidic side (G.S. Chuchmai , 1991; V.V. Korzhova, 1992; V.G. Bokaya , 1998) , changes in saliva viscosity were noted (M.L. Berry (1987), changes in the concentration of protein and urea by M.A. Lunev in 2002.

In the early stages of pregnancy, the remineralizing ability of saliva sharply decreases, which becomes undersaturated in relation to calcium (S. V. Tarmaeva, 1989). .-

There is also a significant decrease in the content of inorganic phosphorus and alkaline phosphatase activity in saliva, especially during complicated pregnancy (V. Yu. Doroshina et al., 1998).

Thus, despite many publications on possible relationships between the increased susceptibility of dental hard tissues to caries during pregnancy, data from various authors is contradictory. In the literature there is no single view on the occurrence and development of dental caries in pregnant women; only a few factors have been identified that contribute to the occurrence of this pathology and, therefore, this problem cannot be considered completely resolved.

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