PREGNANCY AND ORAL AND DENTAL PATHOLOGY. IMPLICATIONS

ABSTRACT

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Introduction

Humankind has always struggled to solve the diverse fertility issues that arose since the dawn of ages, issues that have a profound social impact.

Relatively recently it has been shown that oral and dental pathology has a profound implication in the evolution of pregnancy and the health status in both the fetus and the mother.

Pregnancy influences negatively the evolution of oral and dental pathology. The major changes that take place during pregnancy (immune, hormonal and metabolic changes) complicate the oral and dental pathology. This implies a need for a more complex treatment, treatment that can potentially harm the fetus.

Oral and dental diseases can determine preterm birth, can produce severe puerperal infections or even abortion.

A hygienic and dietetic regime rich in aliments that contain important quantities of minerals, vitamins, proteins and less carbohydrates is necessary.

Carbohydrates are directly linked to the initiation and evolution of the carious process.

The calcium intake reduces the manifestation of spasmophilia in pregnancy and the occurrence of cavities. The pathological contractions of masseter muscles in eclampsia are linked to the ionic calcium concentration.

The medicamentous and surgical therapy must be carefully applied in pregnancy, but they must not be avoided if necessary.

I started my research wanting to maintain a high quality level in pregnant women’s lives with oral and dental pathology, because these affections are very common in pregnancy and their evolution might have serious implications in the evolution of the pregnancy.

My interdisciplinary study is complex being based on one hand on the data that I found in the scientific literature and on the other hand on my practical observations. I am convinced that my research will provide the basis to deepen knowledge on the relationship between pregnancy and the oral cavity, and in applying practical benchmarks, for a healthy evolution of the pregnancy and a healthy fetus.

Keywords: oral and dental pathology, gingivitis, cavities, pregnancy, preterm birth
Material and method

The study included a lot of 610 pregnant women with oral and dental pathology from the Obstetric-Gynecology Clinic No.1 in Craiova, examined in the hospital’s clinics and the dental offices in Craiova between 2009-2012.

Method

For the data base we used enquiries and ‘data base’ folders which contained the following parameters:
- clinical parameters
- microbiological parameters
- biological parameters
- imagistical parameters

The data sources from which we collected the material:
- patient’s charts
- biochemical and imagistical results
- general clinical exams
- obstetrical exams
- dental exams

The obtained results were compared to the results we got from lots of pregnant women without any dental and oral pathology and from lots of non-pregnant women.

Clinical trial

In the study I analysed a set of clinical parameters considered to be have the potential to contribute to the initiation of oral and dental pathology:
- the occurrence of oral and dental pathology
- annual distribution
- the specific oral and dental pathology
- pregnant women’s age
- pregnant women’s social status
- symptomatology
- associated pathology
- pregnancy age
- membrane status
- amniotic liquid aspect
- natural birth vs caesarean birth
- treatment indications

**The microbiologic study**

The following algorithms of evaluation have been used:
- the identification of the classes and types of microbial agents from the dental plaque
- the analysis for each type of pathogens and their sensibility to antibiotics
- the identification of the classes and types of microbial agents form saliva.

The lots of pregnant women were selected related to the oral and dental pathology. The lot consisted of 325 pregnant women with gingivitis, 80 pregnant women with dental cavities and 40 pregnant women with other periodontal pathology. On some of the patients we analysed the concentration of sanguine calcium, the ionic calcium concentration, the IL 6, C reactive protein and the salivary calcium concentration and we inspected the bacterial cultures in the dental plaque.

Histopathological samples were collected, we have conducted X-rays when needed and we observed the medicamentous and surgical therapy. In the gingivitis lot we corelated the pregnant women’s age, the social status, the working conditions, the symptomatology, the gingival index, the retention index and the plaque index. We collected data from the anamnesis, the general clinical exams, the obstetrical and dental exams. The results were correlated with paraclinical examinations.

The microbiological study followed microbial agents in the dental plaque and their sensibility to antibiotics. The degree of sensibility to antibiotics was determined using the standardized difusimetric method.
Conclusions

The major modifications that take place during pregnancy (hormonal, immune and metabolic modifications) increase the occurrence of oral and dental pathology in pregnant women and determine an unpredictable, seldom severe evolution.

There is a reciprocal influence between pregnancy and the occurrence and evolution of oral and dental pathology during this period.

Pregnant women usually present a modified diet with elevated carbohydrate levels in prejudice of vitamins, minerals and oligoelements. Because of this, pregnant women are more susceptible to cavities. A rather elevated degree of osteoporosis of the alveolar bone determine tooth mobility.

The oral and dental infectious pathology can impact the utero-amniotic structures triggering a local synthesis of prostaglandins that can lead to uterine contractions with a high risk for spontaneous abortion or premature birth. A high concentration of IL6 and ionic calcium in oral and dental diseases can become predictive markers for premature birth.

The modifications of the calcium metabolism in pregnancy (the decrease in total and ionic calcium), the quantitative and qualitative modifications in saliva (saliva pH, calcium ions concentration in saliva) as well as an alteration of the pregnant woman’s diet have a strong influence on the dental plaque – favorable factor implicated in gingivitis, cavities, etc.

The parodontal affections caused by occlusal trauma during the expulsive effort in labor can aggravate and can have implications in the puerperal infections.

Pregnancy and the modifications it triggers in the body of the pregnant women favor the occurrence of pregnancy gingivitis (over 50%) in all pregnancies.

Dental treatment is allowed in pregnancy but toxic fetal medications and non-necessary treatments should be avoided.
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