

# Maternal chronic oral infection with periodontitis and pericoronitis as a possible risk factor for preeclampsia in Egyptian pregnant women.(Microbiological and Serological study).

Lobna Abdelaziz ,LOBNA ABDELAZIZ ALY AHMED

## Abstract

**Background:** Several studies have hypothesized that oral infection may increase the risk of preeclampsia.

**Aim of the work:** To explore the relationship between chronic oral infection (periodontitis or pericoronitis) and the risk of development of preeclampsia in a sample of Egyptian pregnant women.

**Subjects and methods:** Forty preeclamptic women with periodontitis and/or pericoronitis (group I) and 40 control subjects having periodontitis and/or pericoronitis (group II) were subjected to microbiological assessment of subgingival plaque samples, samples of pseudo-pocket and placental samples on different culture media and multiplex PCR, while blood samples of both groups were inoculated into signal blood culture system. TNF- $\alpha$  was determined in gingival crevicular fluid (GCF), saliva and serum of both groups by ELISA and real time PCR.

**Results:** There was no statistically significant difference between the two groups as regards to subgingival plaque and pericoronal pseudo-pocket organisms revealed by culture and PCR. There was no statistically significant difference between the two groups as regards to blood sample organisms revealed by culture. The total number of anaerobes in blood samples and placental samples was higher in preeclamptic group than controls it was (97 vs.70) in blood samples and (82 vs.28) in placental samples respectively. While PCR results of placental sample of the pre-eclampsia group showed statistically significantly higher prevalence of *Aggregatibacter actinomycetemcomitans*, *Eikenella corrodens* and *Prevotella intermedia* than that of the control. There was a statistically significant difference between the two groups as regards to the level of TNF- $\alpha$  by ELISA in GCF (P-value = 0.021), in saliva (P-value = 0.043) and in serum (P-value = 0.021).

**Conclusion:** There was a relationship between chronic oral infection and preeclampsia, so treatment of oral infection during pregnancy may represent a novel approach and preventive strategy that reduce oral bacterial load which would decrease the incidence of preeclampsia. Further studies are needed to focus on.

**Keywords:** Periodontitis-pericoronitis-preeclampsia-risk factor .

*Future Dental Journal (FDJ) 2015, December*