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Research Article

Effect of treating periodontitis on C-reactive protein levels: a pilot study

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Background

Periodontitis is associated with elevated levels of C-reactive protein and fibrinogen and it may be a coronary heart disease risk factor. We wanted to study if treatment of periodontitis can decrease the levels of these inflammatory markers.

Methods

C-reactive protein and fibrinogen levels were measured in 35 patients (21 M, 14 F, mean age 50 years) with adult periodontitis, before and after treatment.

Results

The median baseline C-reactive protein level in the patients was 1.05 mg/l and it decreased to 0.8 mg/l (P = 0.05) after periodontal treatment. Of the 30 patients who could be included in the analyses, 24 patients had a baseline level below 2 mg/l (the 95th percentile limit in Finland); 6 patients had levels higher than this. Elevation of the baseline C-reactive protein level or the magnitude of its decrease was not associated with severe form of periodontitis. The decrease in C-reactive protein levels was at least 50% in 4/6 of those with elevated baseline levels, as compared with 3/24 of the rest of the patients (p = 0.016). No corresponding effect was observed in fibrinogen levels.

Discussion

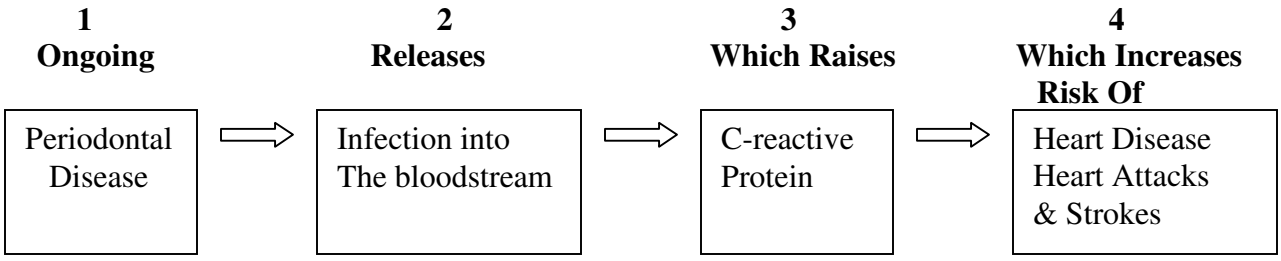
To our knowledge this is the first study showing that treating adult periodontitis decreases CRP levels, as measured with a sensitive assay. The decrease in CRP levels observed in our study was of the same magnitude as the differenced in CRP levels that have been shown to be associated with increased CHD risk in several studies.

Conclusions

Periodontitis seems to increase C-reactive protein only in some individuals, presumably the ones reacting to it with a systemic inflammatory reaction. Periodontal treatment decreases C-reactive protein levels in these individuals and it may thus decrease their risk of coronary heart disease.

Lowering Risk of Heart Attack & Stroke

Untreated Periodontal Disease



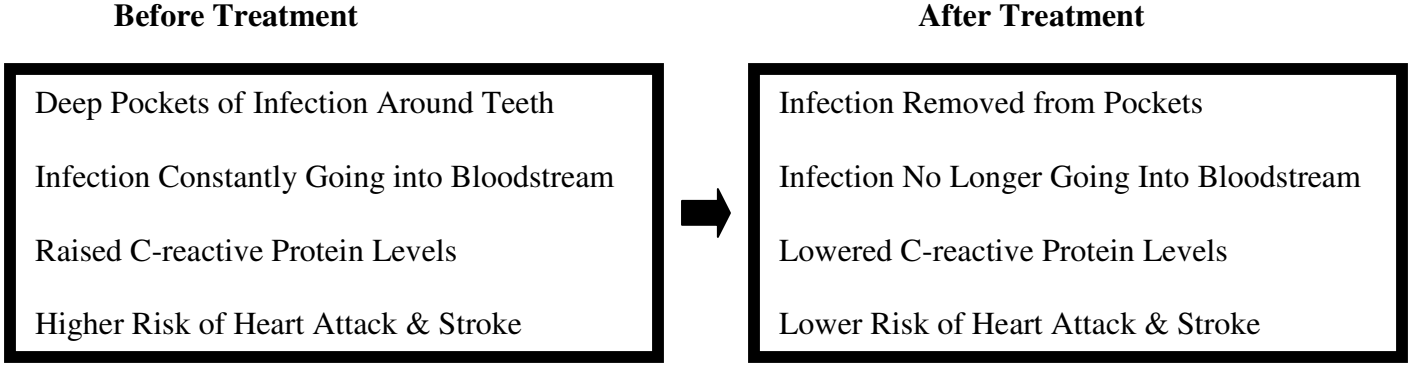
1 Periodontal Disease is an ongoing infection in the bone and around your teeth.

2 When periodontal infection gets deep in the pockets around your teeth, it begins releasing infectious bacteria directly into your bloodstream. Signs that this is occurring are bleeding while brushing or when flossing. The infectious bacteria in your bloodstream then travels to other parts of the body.

3 C-reactive protein (CRP) helps to heal bodily injuries. When injury or infection occurs, the body's natural reaction is to pump C-reactive proteins into the bloodstream. The problem is that ongoing infections (like periodontal disease) permanently raise C-reactive protein levels.

4 Heart disease is currently considered to be an inflammatory process. It is infection and inflammation in the bloodstream which caused thickening blood vessels and blood clots. A study of 28,000 women showed that those with high CRP levels were 2.3 times more likely to experience heart disease than those with low levels. Interestingly, those women with high LDL cholesterol levels were only 1.5 times more likely to experience heart disease. This finding may explain why more than half of all heart attacks and strokes occur in people with seemingly safe cholesterol levels.

Periodontal Treatment



Researchers have found that the treatment of periodontal disease actually decreases C-reactive protein an average of 30 percent. And in cases where CRP has been elevated due to periodontal disease, the decrease is above 50 percent. (See study in this section)