

It's not pretty.

Inflamed receding gums. Loose teeth. A buildup of plaque that turns them brown.

That's periodontitis.

Aching joints. Hands that don't work. Feet that are too painful to move.

That's rheumatoid arthritis.

Two investigators at the University of Nebraska Medical Center believe the same bacteria cause both diseases.

Ted Mikuls, M.D., and Jeff Payne, D.D.S., have joined forces to investigate this link. They are co-investigators on a \$1.2 million grant funded by the American College of Rheumatology.

The focus of the study is on *P. gingivalis*, a nasty bacteria that gets under the gum line and secretes an enzyme that destroys the bone. It also produces a protein that is found in the stiff, aching joints of people with rheumatoid arthritis.

The study involves investigators at UNMC, the Omaha VA Medical Center, Dallas, Washington D.C., and Salt Lake City, Utah. Six hundred study participants from the U.S. sites will include 300 patients who have rheumatoid arthritis and 300 who don't.

The study also will look at a cohort of blood samples from Walter Reed Army Medical Center and Department of Defense. "These blood samples are from healthy people who later

developed rheumatoid arthritis, and will provide us the opportunity to see if infection with P. gingivalis precedes the onset of the disease,” Dr. Mikuls said.

Nearly 3 million people a year develop rheumatoid arthritis, while 35 percent of adults in the U.S. have periodontitis.

“Periodontitis is a major cause of tooth loss in adults,” Dr. Payne said. “Some people are more susceptible than others. Half of the cases of periodontitis can be attributed to genetics, but smoking is a major risk factor as well.”

Anyone at any age can develop periodontitis but it is more common in people over the age of 35, he said.

The statistics are similar for rheumatoid arthritis, Dr. Mikuls said. “I’ve treated patients who are 20 years old to those who are 75. But it is more common in women, peaking in incidence around the time of menopause.”

For more information call Debbie Bergman, clinical study coordinator, at 402.559.8846.