

Maxilla to Mandible

Winter 2007

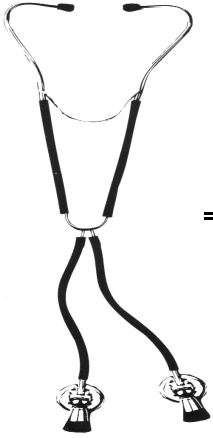
Dr. Gerald B. Wexler, B.Sc., D.D.S.

General Dentistry practice limited to

Temporomandibular Disorders, Orofacial Pain, Oral Reconstruction

2197 Riverside Drive, Suite 105, Ottawa, Ontario K1H 7X3

Phone (613) 731-2149 Fax (613) 731-0558 /www.drgeraldwexler.com



Topics In This Issue

Statistical Correlation Between Pharyngitis and TMD.....	1
Vascular Endothelial Growth Factor Concentrations in Synovial Fluid of Patients with Symptomatic TMJ Internal Derangement.....	2
Psychological Variables and Temporomandibular Disorders: Distress, Coping, and Personality.....	2

Editorial

I ran into some findings which I thought would be interesting to our readers. It is from the U.S. government's annual report on the nation's well being, Health United States, 2006, released in November. I assume the statistics would be similar for the Canadian population.

Twenty five percent of adults say they've experienced pain that lasts at least one full day and ten percent say they've lived with pain that persists a year or more.

The report also contains some encouraging statistics. Among them: life expectancy has hit a record high; the infant mortality rate is falling; and deaths from heart disease are down, although it remains the number-one killer. Less encouraging is the news that the diabetes epidemic continues to threaten more people. Diabetes rates are increasing and obesity rates are increasing. As people live longer they get more chronic conditions, including pain.

This year's report highlights pain. Pain is even more common than people might have thought but is rarely discussed as a condition in and of itself. It is mostly viewed as a symptom of another condition.

According to the report, 21 percent of adults 65 and older said they had experienced pain in the past month that lasted for more than 24 hours. And almost three-fifths of adults 65 and older said their pain had lasted a year or more.

Over one-quarter of adults said they had low back pain in the past three months. Fifteen percent complained of migraine or severe headache in the past three months. Adults 18 to 44 were almost three

times more likely than adults 65 and older to report migraines or severe headaches.

Severe joint pain increases with age. Women reported severely painful joints and more often than men. The report indicates that it's likely as the population gets older and fatter we will see more joint pain.

Among the report's other findings:

- Life expectancy reached a record 77.9 years in 2004, up from 77.5 in 2003 and 75.4 in 1990. In addition, since 1990, the gap in life expectancy between men and women has narrowed from seven to just over five years. Among women, life expectancy is just over 80 years and it's almost 75 for men.
- Infant mortality dropped to 6.8 deaths per 1,000 births in 2004, down from 6.9 deaths per 1,000 births in 2003.
- Heart disease is still the leading killer, but deaths from heart disease fell 16 percent between 2000 and 2004. Deaths from cancer – the number 2 killer – fell 8 percent. The death rate for cancer was 186 per 100,000.
- Diabetes continues to be a growing threat, especially among older adults. Eleven percent of adults aged 40 to 59 and 23 percent of those 60 and older have diabetes.



Statistical Correlation Between Pharyngitis and TMD

Etiologic factors of TMD can include trauma, stress, hormonal imbalances or occlusion. A possible aggravating factor for TMD symptoms may be

Dr. Wexler has 28 years experience in the field of jaw treatment. He is a Diplomate, American Board of Orofacial Pain, member of the American Academy of Craniofacial Pain, American Academy of Orofacial Pain, American Headache Society, and the American Academy of Dental Sleep Medicine. He is a Fellow of Academy of General Dentistry, member of the Canadian and Ontario Dental Associations and the Ottawa Dental Society. His practice is limited to treatment of temporomandibular disorders and orofacial pain.

Continued from Page 1

respiratory infections because of the presence of bacteria that may lead to onset of TMD symptoms.

The objective of this study was to evaluate pharyngitis or sinusitis as an aggravating factor in patients with established TMJ disease. Two hundred eighty-three patients with TMD underwent a clinical examination and were asked to answer a series of questionnaires. Included patients had disc displacement as well as TMJ capsulitis and retrodiscitis, as confirmed by magnetic resonance imaging. Patients were asked about their history of respiratory problems and were required to submit medical records. Included patients had either had respiratory diseases within the last week, or currently had a respiratory infection.

The prevalence of maxillary sinusitis (pharyngitis) was 7% and pharyngitis was 9.1% in patients with TMD. Those who had mouth-opening limitations were 9.93 times more likely to have sinusitis and 3.50 times more likely to have pharyngitis than those who did not have limitation. Patients with TMJ capsulitis were 3.91 times more likely to have pharyngitis than those without it.

The authors suggest that respiratory infectious conditions may lead to bacteremia which may then infiltrate the TMJ synovial fluid. In the case of a healthy joint, there may be no symptomatology. In contrast, damaged joints or diseased joints may allow bacterial attachment to the synovial membrane thereby leading to initiation or exacerbation of TMJ symptoms. The present study has demonstrated a significant association between sinusitis/pharyngitis and TMJ symptoms.

Oral Surg Oral Med Oral Pathol Oral Radiol Endod 99: 677-681.

Vascular Endothelial Growth Factor Concentrations in Synovial Fluid of Patients with Symptomatic TMJ Internal Derangement

Angiogenesis, or the growth of new blood vessels from preexisting vessels, is commonly found within the inflamed synovium of patients presenting with internal derangement of the TMJ. Vascular endothelial growth factor (VEGF) is a potent endothelial cell mitogen and represents the primary regulatory molecule in both physiological and pathological angiogenesis.

In this study, 22 joints from 21 patients with symptomatic internal derangement of the TMJ were evaluated and compared to 10 joints from 6 patients with either nonsymptomatic or healthy TMJs. Synovial fluid was collected from both the patients with internal derangement and controls. VEGF was detected in the synovial fluid of 14 of 22 joints in patients with internal derangement of the TMJ, whereas VEGF was only detected in one of the joints of a control. There was a significant correlation between VEGF concentrations and total protein in the internal derangement, but no correlation between VEGF concentration and microvessel density.

The authors suggest that increased levels of VEGF in the synovial fluid of patients with symptomatic internal derangement of the TMJ may result in increased vascular permeability within the joint space. Increased vascular permeability will likely result in a protein-rich synovial fluid within the joint space.

Clinically, increased levels of VEGF in the synovial fluid of patients with symptomatic internal derangement of the TMJ may contribute to the various pathologies associated with this condition.

J Oral Pathol Med 34: 170-177.

Psychological Variables and Temporomandibular Disorders: Distress, Coping, and Personality

This study found that both types of TMD patients (muscular and articular) had a greater level of emotional distress than normal patients. However, no difference was found between the muscular and articular groups regarding the total distress index. There were some differences in personality; the muscular group showed symptoms of depression, whereas the articular group displayed irritability. It was difficult to predict how either group would cope with distress, although the muscular group did develop an attitude of hopelessness.

The authors conclude it is still possible to develop appropriate treatment, as long as patients who may develop psychological symptoms are diagnosed early. For instance, one needs to be aware that muscular cases can develop depression so that appropriate coping strategies can be developed. Patients who may develop psychological symptoms need to be identified from those who don't.

Oral Surg Oral Med Oral Pathol Oral Radiol Endod 98: 153-160