

# Chem 412 Seminar

9. April, 2001

Christina Dahlke

## *Sjogren's Syndrome: Molecular Analysis of Dry Mouth*

### **Abstract:**

Sjogren's syndrome is a chronic, autoimmune disease, mostly targeting salivary, lacrimal, and Bartholin's glands in the vagina. In some cases, Sjogren's may be associated with rheumatic diseases primarily affecting joints, bones, muscles, and skin. Patients mostly experience dry eyes and mouth, sometimes associated with arthritic symptoms. Dental cavities are also a problem resulting from the dry mouth. The onset of this condition is unknown. Research has focused on the role of apoptosis in initiating autoimmune diseases as well as a genetic predisposition to the disease, viral infections or hormones as an initiating factor. Autoantibodies participating in disease expression respond to the ribonucleoproteins Ro and La and cytoskeletal protein  $\alpha$ -fodrin. The immune response to the proteins may play a role in the symptoms of the disease. Although classification of the disorder has been clinically challenging due to many symptoms and no distinguishing marker, steps have been made to eliminate false positive and false negative cases for study. Until continuity is established, therapy remains symptomatic. Future directions are focused on regulating or modifying the immune response of the disease.

### **References:**

- Arnett, Frank C., *et. al.* Genetic Studies in Sjogren's Syndrome and Systemic Lupus Erythematosus. Journal of Autoimmunity 2: 403-413 (1989).
- Bolstad, Anne I., *et. al.* Fas and Fas Ligand Gene Polymorphisms in Primary Sjogren's Syndrome. Journal of Rheumatology 27(10): 2397-2405 (2000).
- Guggenbuhl, Pascal, *et. al.* Primary Sjogren's Syndrome: Role of the HLA-DRB1\*0301-\*1501 Heterozygotes. Journal of Rheumatology 25(5): 900-905 (1998).
- Haneji, Norio, *et. Al.* Identification of  $\alpha$ -Fodrin as a Candidate Autoantigen in Primary Sjogren's Syndrome. Science 276 (1997).
- Helsloot, J., Sturgess, A. T Cell Reactivity to Sjogren's Syndrome Related Antigen La (SSB). Journal of Rheumatology 24(12): 2340-2347 (1997).
- Jean, S. DRB1\*15 and DRB1\*03 Extended Haplotype Interaction in Primary Sjogren's Syndrome Genetic Susceptibility. Clinical and Experimental Rheumatology 16:725-728 (1998).
- Kassan, S.S. Immunogenetics of Sjogren's Syndrome. Ann. Med. Interne 149(1): 45-48 (1998).
- Lavansani, S., *et. Al.* Abnormal DNA Damage-inducible Protein in Cell from Sjogren's Syndrome Patients. Journal of Autoimmunity 11:363-369 (1998).
- Reichlin, M. Antibodies to Ro and La. Ann. Med. Interne 149(1): 34-41 (1998).
- Rieux-Laucat, F. *et. Al.* Mutations in Fas Associated with Human Lymphoproliferative Syndrome and Autoimmunity. Science 268:1347-1349 (1995).
- Stott, D., *et. Al.* Antigen-driven Clonal Proliferation of B Cells within the Target Tissue of an Autoimmune Disease. Journal of Clinical Investigation 102(5): 938-946 (1998).