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*Lymphocyte migration to inflamed salivary glands in Sjögren's syndrome*

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**Lay Abstract**

Sjögren's syndrome (SS) is an autoimmune disease in which white blood cells known as lymphocytes migrate from the bloodstream into salivary glands and lacrimal glands, where they attack and destroy the cells that produce saliva and tears. Although SS is very common in the United States, we do not know which adhesion molecules and activating molecules, known as chemokines, help the lymphocytes to migrate from blood vessels into inflamed salivary glands. The major goals of this proposal are to determine which adhesion molecules (Aim 1) and chemokines (Aim 2) are highly expressed in inflamed salivary glands of patients with primary SS and may be important in the migration of lymphocytes into these glands. These studies will help us understand how lymphocytes enter the salivary glands and cause inflammation and damage. This may lead to the development of novel diagnostic and therapeutic protocols for Sjögren's syndrome.

**Scientific Abstract**

Migration of lymphocytes from blood vessels into salivary glands is critical for development of salivary gland inflammation and damage in patients with primary Sjögren's syndrome (pSS). The adhesion molecules and chemokines that are most important for lymphocyte migration into these salivary glands have not been determined. We will stain frozen sections of inflamed labial salivary glands from patients with pSS and uninflamed glands from controls with monoclonal antibodies to a large panel of lymphocyte and endothelial adhesion molecules (Aim 1) and chemokines (Aim 2). Sjögren's Syndrome International Collaborative Clinical Alliance (SICCA) provided the salivary gland tissues. Successful completion of these studies will help define the immunological mechanisms that control the development of salivary gland inflammation in patients with pSS and will enable us to compete for NIH funding to identify the physiologic roles of highly expressed adhesion molecules and chemokines in development of salivary gland inflammation in patients with pSS.