

DR. MING CHAN'S FIRST CONCERN IS WITH PEOPLE LIVING WITH ALS

Dr. Ming Chan, MD, associate professor, division of physical medicine and rehabilitation at the University of Alberta, has been interested in ALS research and clinical work for more than a decade. He is also staff physician at the University of Alberta multi-disciplinary ALS clinic specializing in rehabilitative medicine.

As a researcher, Chan is interested in the physiological functions and survival of motor units in ALS. His goal is to characterize the evolution of motor units as the disease progresses and to measure their adaptation in response to treatment. He has been working with Dr. Sanjay Kalra assistant professor of medicine at the University of Alberta, on developing biomarkers that may provide greater sensitivity in measuring change in disease severity.

Chan is conducting a clinical trial to determine whether memantine (a neuroprotective drug now being used to treat Alzheimer's) can slow disease progression in people living with ALS. He will be using some of those biomarkers as part of the outcome measures. Biomarkers include proteins whose levels differ between the healthy and disease state. They also include the products of metabolism,

small molecules that differ in the disease state as compared to healthy individuals. Not only would biomarkers serve to diagnose ALS earlier with more certainty, but would also allow better clinical trials of new therapies for the disease.

In addition to measuring physiologic changes in the spinal motor neurons, in conjunction with colleagues from the Institute of Neurology in London, England, he is looking at changes in excitability of the cortical motor neurons that could be important in affecting their survival.

Chan monitors the progress of people living with ALS on a daily basis. "As a clinician, my first concern is with the patients. My motivation and ultimate hope are to be able to do something useful for them, to slow disease progression and to improve the quality of their lives," says Chan.

Chan began working on neuromuscular diseases when he was clinical research fellow at Tufts University in Boston between 1995 and 1997. Besides being a good fit with his clinical interests, ALS also forms an interesting comparison with polio patients who suffer damage only to spinal motor neurons (ALS also damages motor neurons in the brain).



Working with Dr. Sanjay Kalra, an expert in assessing the functional status of cortical motor neurons, also reinforced his interest.

Chan shares some common research goals with Dr. Kelvin Jones, assistant professor at the University of Alberta. Chan is working with Jones to develop better methods to evaluate motor unit survival in ALS. Jones builds the computer simulation models and Chan tests them by comparing the result with experimental data. Chan and Jones are also looking at motor nerve excitability (another potential biomarker) in ALS which likely changes as the disease progresses.

By: John Planka