



INSIGHT

Newsletter of the USC Alzheimer Disease Consortium
Fall 2003

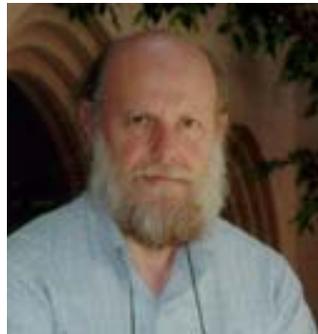
USC Alzheimer Consortium

- Alzheimer Disease Research Center
- USC Alzheimer Research Center of California /Rancho
- USC Alzheimer Research Center of California/Health Sciences Campus

Years of Research Lead to Future Treatments for Alzheimer Disease

If all goes as planned, the next couple of years will witness the beginnings of clinical trials for new medications designed to stop the progression of Alzheimer disease and improve memory function for those diagnosed with this illness. These new drugs will be the result of research efforts undertaken by **Prof. Caleb Finch**, Associate Director of the Alzheimer Disease Research Center at USC, and colleagues from Northwestern University, Professors **Grant Krafft** and **William Kline**. Their combined efforts led to a

hypothesis in which the protein “amyloid beta” forms soluble clusters in the brain that eventually cause a person to show signs of Alzheimer disease. Many researchers during the past 20 years have focused on the amyloid protein as the likely cause of the disease when it gathers in deposits known as “fibrils” found in senile plaques. However, in 1998 Dr. Finch and his colleagues discovered a new form of amyloid beta, which becomes toxic as it gathers in groups of 3 to 24 units. According to their research data these smaller clusters called



Caleb Finch, Ph.D.

“ADDLs” are able to spread throughout the brain, and in Alzheimer patients up to 70 times more ADDLs are found as compared to normal brains.

As its Principal Investigator and Director

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What is Alzheimer Disease?

Dementia refers to the loss of memory and other mental abilities that substantially interfere with daily activities such as driving, meal preparation, self-care and managing finances.

Alzheimer disease is the most common cause of dementia in older adults. More than half the time, dementia will prove to be due to Alzheimer disease. However, a

number of other illnesses, including cerebrovascular disease, Parkinson’s disease, and fronto-temporal lobe degeneration also lead to dementia.

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We are studying how memory changes as people age...

... in order to help people age better.



Helena Chui New Director



Dr. Helena Chui

The year 2003 saw a change in the leadership of the Alzheimer Disease Research Center (ADRC) with the naming of Dr. Helena Chui as its new Principal Investigator and Director. No stranger to the work of the Center, she previously served as Director of both the Clinical Core and the ADRC Minority Diagnostic and Treatment Satellite. A graduate of the Johns

Hopkins School of Medicine in Baltimore, Maryland, Dr. Chui has been a professor at the USC School of Medicine since 1982, and currently she is the Interim Chair for its Department of Neurology.

Dr. Chui was recently awarded an additional five years of funding by the National Institute of Aging to study ischemic vascular dementia, the second most common cause of dementia in the U.S.

The study, now in its 9th year, uses advanced neuro-imaging techniques to improve the diagnosis of dementia due to diseases affecting small blood vessels.

Dr. Helena Chui is looking forward to her expanded role with the Alzheimer Disease Research Center, and we offer her our congratulations as she begins this new assignment, one that will ultimately benefit the lives of seniors through strengthened research efforts.

“when ADDLs bind selectively to receptors associated with memory, nerve synapses lose their ability to store information.”

Caleb Finch

Years of Research continued from page 1

from 1984 to the present, Dr. Finch led the research efforts of the USC Alzheimer Disease Research Center, which he recently turned over to **Dr. Helena Chui**.

His interest in Alzheimer disease research goes back a couple of decades as he recalls:

“My work on Alzheimer disease can be traced to 1968 while I was a graduate at Rockefeller University in New York in the lab

of **Alfred Mirsky**, a renowned molecular biologist. My thesis project analyzed effects of aging on molecular responses to stress. I concluded that aging caused major impairments in the regulation of stress responses by the brain and pituitary. From this start, I have pursued the basis for aging changes in brain cell functions. At that time, Alzheimer disease was not widely recognized and dementias of aging were still

being classified. During the next 10 years while I was at USC, Alzheimer disease became clearly recognized for its major impact in the elderly. My studies on normal aging in humans and rodents took on a new significance, because we discovered cellular changes in the brain, which began very soon after maturity. In particular, inflammatory changes in brain glia are modest versions of the major

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Years of Research continued from page 2

damage seen in Alzheimer disease. During these studies, we discovered that an inflammatory protein present in senile plaques of Alzheimer brains (apoJ) is also induced to a lesser extent during normal aging. We isolated apoJ and found that it promoted the formation of a novel neurotoxin from the beta-peptide present in senile plaques, which we call ADDLs (amyloid-delivered diffusible ligands). In collaboration with Bill Klein and Grant Kraft, we have developed new approaches to Alzheimer therapy based on ADDLs.”

These research findings appeared in the

September 2 issue of the journal, **Proceedings of the National Academy of Sciences**. The next step is the development of a new class of drugs that work against the ADDLs. According to Finch, “when ADDLs bind selectively to receptors associated with memory, nerve synapses lose their ability to store information. Over time and continuous assault, neurons die and lose the memories already stored there. These are the late stages of Alzheimer’s disease.”

Currently the pharmaceutical company, **Acumen**, founded by Finch,

Klein, and Krafft, is working to establish new medications that prevent the protein molecules from becoming the deadly clusters or ADDLs. With proper trials and fine tuning these new drugs may both restore memory loss due to Alzheimer disease as well as stop the progression of the disease. As a member of the scientific advisory board for Acumen, Dr. Finch will contribute to this process, which holds much promise for future treatments. In his words, “I think it’s safe to say we’re on the right path to addressing Alzheimer disease.”

“I think it’s safe to say we’re on the right path to addressing Alzheimer disease.”

Caleb Finch

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“Many Faces of Dementia” Symposium at USC



California State Senator Gloria Romero

The bi-annual conference “Many Faces of Dementia: Across the Stages” held February 28, 2003 at the USC Davidson Conference Center was an enormous success, having sold out weeks ahead of time. One hundred eighty health professionals from throughout the greater Los Angeles region attended this one-day meeting presented by the USC Alzheimer

Disease Consortium. The day began with an update on current and future research presented by **Helena C. Chui, MD**, followed by a discussion of the role of neuro-imaging by **Tiffany Chow, MD**.

Attendees participated in workshops focused on elder abuse, behavioral problems, activities, practice guidelines, and family decision-making during

the different stages of dementing illnesses. California State Senator **Gloria Romero**, the featured luncheon speaker, treated attendees to an update on legislative issues. The busy but informative day concluded with a touching and humorous presentation on end-of-life issues by David Kessler, noted author of [Life Lessons](#).

Rancho Center Celebrates 20th Year



Freddi Segal-Gidan, Co-Director

The **Rancho/USC Alzheimer’s Research Center of California (ARCC)**, located on the grounds of Rancho Los Amigos National Rehabilitation Center in Downey, is celebrating its 20th year of operation and funding from the State of California. The Center has continued its active clinical, educational and research programs without interruption amidst the potential threat of closure of Rancho Los Amigos by the Los Angeles

County Board of Supervisors. This presented much uncertainty to the staff, patients and families during the past year. Over 100 new patients with memory problems were evaluated at the Center this past year.

The ARCC is pleased to introduce **Veronica Perry, RN** as the program’s new nurse clinical coordinator. Also in the Rancho news, **Freddi Segal-Gidan, PA, Ph.D.**, has become co-director of the center with **Helena C. Chui, MD**.

The Rancho/USC ARCC’s regular fall caregiver educational support group was begun in September and meets on Wednesday evenings. A second bi-annual caregiver symposium in honor of former clinical nurse coordinator **Barbara Smith, RNC** is scheduled for Saturday, January 31, 2004. For inquiries about these or other programs call **(562)401-8130**.



Peter Braun, Executive Director of the Alzheimer's Association of Los Angeles, Riverside and San Bernardino Counties, with State Senator Gloria Romero.



Linda Clark and Tiffany Chow of the USC Alzheimer Disease Research Center. Dr. Chow accepted a position earlier this year as a Clinician-Scientist at the Rotman Research Institute in Toronto. Dr. Clark is the Program Manager of the ADRC Clinical Core.



Debra Cherry, Associate Director of the Alzheimer's Association, with Freddi Segal-Gidan and Helena Chui.



Liberty Teodoro, Research Nurse for the USC Alzheimer Disease Research Center.

“With an eye made quiet by the power of harmony and the deep power of joy, we see into the life of things.”

William Wordsworth



Opportunities to Participate in Clinical Trials

The Geriatric Studies Center at the USC Keck School of Medicine is staffed by specialists in the diagnosis and treatment of Alzheimer disease and age-related memory loss. The Center provides evaluation, diagnosis and treatment recommendations, referral to caregiver services and support groups, and the opportunity to participate in clinical drug trials of the most recent advances in medications for memory problems. The Center also provides evaluation for those who are experiencing the normal memory loss that occurs with age and may not have Alzheimer disease. If patients are eligible for a trial, they receive medical evaluations, tests and treatments at no cost. The following studies are currently taking place on the USC Health Sciences campus:

Condition being studied	Medication being tested
Agitation or behavioral problems in Alzheimer disease	risperidone, quetiapine, olanzapine, citalopram
Persons with Alzheimer disease suspected memory problems	Evaluation, diagnosis, recommendations, family conferencing and long-term follow-up
Memory loss with Alzheimer disease and normal cholesterol levels	simvastatin - Subjects are allowed to continue on other memory medications.
Persons with mild to moderate Alzheimer disease who are presently not taking medication for memory	MKC-231
Slowing of cognitive decline in Alzheimer patients	Folate, vitamins B ₆ and B ₁₂
Persons with mild to moderate Alzheimer disease, English or Spanish speaking, can be on cholinesterase inhibitors	xaliproden as a neuroprotective agent valproate (divalproex sodium) as a neuroprotective agent

For additional information, or an appointment please contact:

Margaret Villa, R.N.
Randall Sanabria
Amber Watts, M.A.
Telephone **(323) 442-3715**
Fax 323-442-3717

**Memory Loss
& Alzheimer disease
is not a normal part of
aging, but there is hope.**

**Hope
Through
Research**



Lecture Series

The USC Alzheimer Research Center of California/Health Sciences Campus hosts luncheon lectures, which are open to healthcare practitioners, allied health staff, consumers and interested community members. These bimonthly lectures are presented by faculty from USC and other regional institutions, and are held on Thursdays from 11:30 am – 1:00 pm at the USC University Hospital located at 1500 San Pablo Street, Los Angeles, CA 90033. Lunch is provided free.

Cross Cultural Assessment of Dementia

December 11, 2003

Evelyn Teng, Ph.D.

Professor of Neurology, USC Keck School of Medicine
USC University Hospital – Salerni room, 5th fl

Differential Diagnosis of Vascular Dementia and AD

February 12, 2004

Helena Chui, M.D.

Professor and Interim Chair of Neurology, USC Keck School of Medicine
USC University Hospital – Cardinal room, 1st fl

Neuropsychology and Normal Aging

April 22, 2004

Kyle Boone, Ph.D.

Professor of Psychiatry, UCLA School of Medicine
USC University Hospital – Cardinal room, 1st fl

Management of End of Life Care in Dementia

June 10, 2004

Karen Josephson, M.D.

Director of Geriatric Services, Department of Family Medicine, USC Keck School of Medicine
USC University of Hospital – Cardinal room, 1st fl

For more information regarding the lecture series, please contact Carol Munoz
at **323-442-3715** or e-mail: cmmunoz@usc.edu

You can help find the answers to memory changes caused by Alzheimer or other disorders: 1) Volunteer to assist research investigators at the University of Southern California Alzheimer Disease Research Center. 2) Take part in studies related to memory and aging, whether or not you have concerns about your memory. If you want to help and are age 60 or older, please contact the Alzheimer Disease Research Center. Individuals of any age who have progressive memory loss are also urged to contact us. Call **213-740-7777** for more information.

Visit our web-site at:

www.usc.edu/adrc



Visit our web-site:
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