Alzheimer grants OK'd

Ohio State University will receive a $250,000 state grant to set up an Alzheimer's disease research center.

The money was part of a $1 million appropriation by the legislature last year for Alzheimer's research at six medical centers in the state.

Joyce Chapple, director of the Ohio Department of Aging, said the state set up a task force of scientists last year to evaluate research proposals.

"The law enabled the medical schools to compete for those dollars," she said. No institution could receive more than $250,000.

Case Western Reserve University and the University of Cincinnati were awarded $250,000; the Medical College of Ohio at Toledo, $150,000; the Cleveland Clinic, $75,000; and the Northeastern Ohio Universities College of Medicine in Rootstown, $25,000.
Grant to aid study of disease

By Mary Carmen Cupito
Dispatch Medical Reporter

Do brain cells of people with Alzheimer's disease self-destruct? Are there biological markers that may predict who is at risk of developing Alzheimer's? Does Mercer County really have an unusually high number of cases of Alzheimer's disease?

These are some of the questions that researchers at Ohio State University will try to answer through research projects funded by a $250,000 grant awarded this week. The grant was part of a $1 million state appropriation for research into Alzheimer's disease.

THE GRANT will fund eight research projects at OSU — five full research studies and three smaller pilot studies — said Dr. Leopold Liss, associate director of the new Alzheimer's Disease Research Center. Dr. Gregory Trzepiowski is director of the center.

The grant is “extremely important,” Liss said. It allows the university to set up an administrative structure for collecting data on Alzheimer's, acquiring brain tissue for research and assessing patients.

It also funds the research. Studies will examine the composition and changes in nerve cell membranes from human cadaver brains on the theory that cell membranes may be digested to produce substances that the body lacks, Liss said.

OTHER PROJECTS will try to find biological differences that may be markers for Alzheimer's in relatives of people with the disease, compare Alzheimer's with other diseases that cause mental disorders, and test new therapies for Alzheimer's in animals.

A pilot study will try to track down people with Down's syndrome who were studied 10 years ago at Orient State Institute to see what percentage developed Alzheimer's disease, because the two diseases are linked.

Other pilot projects will plan strategies for setting up Alzheimer's units in nursing homes and will try to determine if there is an increased number of cases of Alzheimer's and Down's syndrome in Mercer County.
Alzheimer’s may be linked to enzymes

By Mary Carmen Cupito
Dispatch Medical Reporter

Ohio State University researchers have uncovered evidence that Alzheimer’s disease may be linked to increased enzyme activity that breaks down membranes surrounding brain cells.

The OSU research is the first evidence that the bodies of those afflicted with Alzheimer’s may “feed” on their brains. This theory, called “auto-cannibalism,” was proposed by Dr. Richard Wurdman of the Massachusetts Institute of Technology 3 years ago.

AKHIAQ A. FAROOQUI, a research scientist in the Department of Physiological Chemistry in OSU’s medical school, noted that the study examined only 13 cadaver brains. Because the number is small, the results only support the theory, rather than prove it, he said.

It is also uncertain whether the increased enzyme activity is a cause or an effect of Alzheimer’s disease, Farooqui said.

Lloyd A. Horrocks, OSU professor of physiological chemistry who took part in the study, said, “If it is related to the cause, it is extremely important.” If it is an effect, he said, it might point the way to finding treatments for the disease.

In the study, which was presented at three recent scientific meetings, nerve cell membranes in the brains of 11 Alzheimer’s patients were examined 4 to 7 hours after death. They were compared to nerve cell membranes in two normal brains.

THE ANALYSIS SHOWED that the brains of Alzheimer’s patients had enzymes that were five to eight times as active as normal.

The enzymes “mine” the cell membranes for choline, breaking them down in the process, Farooqui said. Choline, which is normally synthesized by the body, is a component of a chemical that enables brain cells to communicate with each other.

The membranes don’t rupture, but their ability to regulate which chemicals get into and out of cells is diminished, and they might die, he said.

Auto-cannibalism is only one of several theories about the development of Alzheimer’s, a brain disease that destroys a person’s ability to think and function.

OTHER THEORIES include an excess of aluminum or other toxins that poison brain cells, a viral infection, an acceleration of the normal aging process, and genetic factors.

Dr. Andrew Munk, acting associate director for the neuroscience and neuropsychology of aging program at the National Institute on Aging in Bethesda, Md., said scientists are not sure which theory is correct, or even that there is a single cause of Alzheimer’s.

Research has shown the disease to be complex, he said, and it is possible there are multiple causes that have the same effect.
Alzheimer research gets grant

By Cole E. Hatcher
Lantern staff writer

A $250,000 state grant recently awarded to Ohio State is being used to coordinate a campus-based Alzheimer’s Disease Center.

The grant was awarded by the Ohio Department of Aging as part of the state legislature’s $1 million 1986 appropriation for Alzheimer’s disease research.

Alzheimer’s disease is the most common cause of the loss of intellectual abilities in the elderly.

Leopold Liss, professor of pathology, said Alzheimer’s disease moderately affects 10 to 20 percent of all people over 65 and severely affects four to five percent of these people.

Gregory Trzeciakowski, associate dean of medicine administration and director of the Alzheimer’s Disease Center, said the major components of the center are already in existence.

The grant will permit the organization of an administrative structure, a tissue collection facility and a patient registration and evaluation facility.

Trzeciakowski said the focal point of the center is expected to be in the university’s Arthritis Geriatrics Center, which is close to completion.

He said people suspected of having Alzheimer’s disease are now tested and evaluated by the departments of psychiatry and neurology or by the cognitive disorders clinic.

“But right now they’re not coordinated,” Trzeciakowski said.

“What we plan to do is to use a standard set of tests. If everybody collects the same data and it’s all fed into the same department, we could build a data bank on these patients."

A computer data bank would allow researchers to better evaluate the effectiveness of different types of therapies and medicines, he said.

Liss, who will be associate director of the center, said the grant is also being used to fund research.

Liss said eight new research projects are receiving initial funding from the grant.

"Through this grant, we are giving our researchers the ability to collect some data and go out and compete for funds elsewhere more successfully," he said.

"This is the initial booster rocket," Liss said. "It will not carry us everywhere we want to go, but it will lift us off the ground. This is tremendously important help."

Three of the eight projects are researching the cause of Alzheimer’s disease.

See Page 2, ALZHEIMER

ALZHEIMER: No cause known

Continued from Page One

er’s disease, whose cause is unknown, Liss said.

However, researchers do know the disease results in a shrinkage of the brain and in the degeneration of specific brain nerve cells involved in the higher mental functions.

Some of the suspected causes of the disease are genetic defects, viral infections and exposure to certain poisonous substances.

Of the other five projects, two projects are clinical studies, and three are patient support programs.

One of the clinical studies focuses on locating people who run the greatest risk of getting Alzheimer’s disease and trying to slow or stop the disease’s progress with early treatment.

Trzeciakowski said the younger a person is when he or she develops Alzheimer’s disease, the greater the chance that the person’s relatives will also develop the disease.

He said if someone develops the disease after age 85, however, relatives run no greater risk of getting Alzheimer’s disease than does the general public.

The second clinical study focuses on improving the diagnosis of Alzheimer’s disease. The only way a diagnosis can now be confirmed is to examine the brain during autopsy.

Liss said some of the disease’s early warning signs are the loss of recent memory, confusion and changes in personality.

Liss pointed out, however, that because not everyone displays the same symptoms, each individual needs to undergo a thorough medical evaluation.

Trzeciakowski said people with Alzheimer’s disease are often physically healthy. He said the disease causes a slow, steady decline. “You can almost see the disease pinching off their mental capacities.”

Trzeciakowski said the patients’ deaths do not result from the disease. The most common cause is respiratory problems, he said.

Liss said that although the disease is incurable, medication can be used to preserve abilities the patient might lose due to lack of treatment.
Care givers are vulnerable to infection, disease

By Mary Carmen Cupito
Dispatch Medical Reporter

People caring for a relative with Alzheimer's disease may be more susceptible to infection and disease than other people, a study has found.

Ohio State University researchers found that people caring for Alzheimer's patients have weaker immune systems than a group of similar people who were not caring for sick relatives.

However, those caring for Alzheimer's patients did not report they were sick more often than did the comparison group.

Previous research has examined the mental health of people caring for Alzheimer's patients and asked them to assess their own physical health, but "no studies have looked at actual physiological changes in the care givers," said Janice Kiecolt-Glaser, a clinical psychologist in OSU's psychiatry department.

Kiecolt-Glaser, the lead author of the study published in this month's Psychosomatic Medicine, and five other OSU researchers studied 34 people caring for Alzheimer's patients in the Columbus area and compared them with 34 people not caring for patients.

Participants were interviewed and their blood was tested to measure their immune systems, which fight infections.

Previous studies by Kiecolt-Glaser; her husband, Dr Ronald Kiecolt-Glaser; and other OSU researchers have found that stress can suppress the immune system in medical students at exam time and in recently divorced people.

Some studies on rodents, however, have indicated that long-term stress may enhance the immune system.

To measure the effect of long-term stress on humans, Janice Kiecolt-Glaser received a grant from the National Institute of Mental Health to expand the study for 3 years.

"What was striking was that care givers as a group were not as depressed or upset" as those in other studies, she said.

They were relatively well-educated and had time to visit and talk with friends and relatives.

Many were recruited through the Alzheimer's Disease and Related Disorders Association, which provides support for people.

That could have affected the results, she said.

They were also financially better off than those in other studies. "Money doesn't help everything, but it does cushion a lot of life's woes," Janice Kiecolt-Glaser said.

The study asked how many days in the past 6 months the participants had been ill in bed. Asking the question that way could have underestimated the actual numbers of sick days, because people who must care for Alzheimer's patients often cannot go to bed even if ill, she said.

Alzheimer's disease progressively robs people of their memory and ability to think. People in the later stages require constant care.

The researchers are looking for 301 volunteers for the next phase of the study, including people caring for Alzheimer's patients and a comparable group of people who do not have relatives with the disease.
Alzheimer’s link found

Aluminum may rob people with Alzheimer’s disease of their ability to smell, an Ohio State University researcher reports.

In autopsies of 40 Alzheimer’s patients, four olfactory bulbs, which transmit information about smell to the brain, were specifically tested for aluminum and showed high levels of the metal, said Dr. Leopold Liss, a professor of pathology.

Most of the remaining bulbs had tangled webs of nerves, which have been linked to aluminum.

In later stages of Alzheimer’s disease, “people could not identify things like bacon or coffee,” Liss said.

This finding could support the theory that aluminum plays a role in Alzheimer’s disease. While the brains of normal people are protected against the metal, aluminum enters the brains of people with Alzheimer’s, where it can destroy nerve cells.
Aluminum may accelerate Alzheimer damage

By Robert Gelchion

Aluminum may cause Alzheimer’s disease victims to lose their sense of smell, an Ohio State researcher has found.

The results of 40 autopsies performed on Alzheimer’s disease patients produced strong evidence that aluminum plays a role in the destruction of this sense. Elevated levels of the metal were found in all four of the olfactory bulbs specifically tested for the presence of aluminum.

In the majority of the remaining cases, the olfactory bulbs contained twisted nerve fibers, which are thought to be caused by aluminum.

“We studied these four cases and, in each, the accumulation in the olfactory bulb is quite high,” says Leopold Liss, professor of pathology. “In these cases, we found it held the highest amount of aluminum anywhere in the brain.”

This may support the idea that, although aluminum does not cause the sickness, it can cause brain damage in a person who has already contracted Alzheimer’s disease. Aluminum also is thought to play a role in causing dementia, a condition in which people suffer loss of memory and other intellectual skills.

Liss originally believed the loss of smell may have been the result of dementia. He found that some patients had changed their dietary habits.

“For instance a person who never liked sweets began to crave sweets,” he says. “People who did not particularly like salty foods began liking them.”

“This was an indication that people were switching from using their senses of smell to other senses of taste.”

He first thought that this reflected a change in their personalities. But he adopted the idea of a direct physiological effect when researchers found that Alzheimer’s patients had trouble remembering and identifying smells.

“We would give someone something to smell and then ask them to identify it,” says Liss. “This would work only with people in the early stages of the disease. In later stages, people could not identify things like bacon or coffee. There was no differentiation of smells.”

The olfactory bulb and tract in the brain transmit information about odors to the cerebral cortex, which catalogues and identifies them. But Liss did not know whether the olfactory region was being damaged, transmission being prevented, or if another part of the brain was being damaged, rendering it unable to identify the transmission.

“We looked at the bulbs of these people and found neurofibrillary tangles in the majority of cases,” Liss says. Neurofibrillary tangles are pairs of fine nerve fibers twisted around each other. They are a characteristic of Alzheimer’s disease and prevent the transmission of impulses in the brain.

“Aluminum plays a role in the formation of neurofibrillary tangles.”

In some cases, they also found neuritic plaques, which are degenerating pieces of nerve cells. They also are typically found in the brains of Alzheimer’s patients. But Liss says aluminum plays no role in their formation.

The metal was found in the frontal and occipital lobes of the brains they examined. Aluminum concentrations in the olfactory bulbs and tracts were very high.

“Aluminum is causing the degeneration of nerve cells,” Liss says. “It is totally independent of dementia. Aluminum is really producing havoc there. It should be regarded as an element which causes the degeneration of nerve cells in Alzheimer’s patients. But this can not occur in healthy humans.”

Researchers still do not know how aluminum enters the brain in Alzheimer’s patients. The brain is normally protected against aluminum, which is present in almost all foods in some amount. Somehow, the disease destroys this protection and allows the brain to absorb it. The metal then destroys nerve cells so they can not produce neurotransmitters, the messenger cells of the brain.

Liss worked on this study with David Thornton, a pathologist at Children’s Hospital in Columbus. Liss presented the paper at a meeting of the American Association of Neuropathologists in Seattle.
Caretakers of Alzheimer's patients studied

By David Lore
Dispatch Science Reporter

Alzheimer's disease is a family affliction, and spouses and children caring for a loved one with the disease may themselves be more prone to mental or physical breakdowns.

"Caretakers seem to have more illnesses, and we're trying to find the mechanism involved," said Jason Dura.

He is coordinator of a research project in the Ohio State University Department of Psychiatry, which is looking at "burn-out" among people caring for Alzheimer's patients.

Dura, a postdoctoral fellow, is teamed with Dr. Janice Kiecolt-Glaser of the OSU Department of Psychiatry and Dr. Ronald Glaser, chairman of the OSU Department of Human Microbiology and Immunology, on the 3-year study sponsored by the National Institutes of Mental Health.

THE STUDY began last summer with an initial comparison of the health of 34 Alzheimer's caretakers with the health of 34 other persons of similar age and background who were not confronting such a crisis.

The caretakers were usually spouses of Alzheimer's sufferers or the adult children of such persons.

The OSU research team has done extensive work on how stress affects the ability of the body's immune system to ward off disease. Dura says stress can be particularly dangerous for elderly spouses of Alzheimer's victims, since the immune system is normally weakened with age.

Dura said there are anecdotal reports about spouses succumbing to major illnesses under the pressure of coping with a husband or wife's illness. Others, however, demonstrate incredible strength in such situations.

"It's just so varied. There are some people who are incredible, and that's one of the things we're trying to figure out: what makes people hold up under 14-hour days for years after year, while others burn out," he said.

THE STUDY, which eventually will involve 200 caretakers, is being done in cooperation with the area support group, Alzheimer's Disease and Related Disorders Association, 2222 N. 5th Ave.

Anna Marie Malia, executive director of that group, said much has been done in Columbus during the past decade to help caretakers deal with the steady deterioration of a loved one's mind and health.

When the group was organized in 1976, she said, there were few options for such people other than standard nursing home care or family care at home. While these remain the basic options, there has been an increase in special services to help caretakers and patients deal with either eventuality.

For those who are able to keep their loved ones at home, there is a respite care service that can take over home duties for a few hours each week and thus afford some relief to the caretaker. There are also five adult day-care centers in the county that can take Alzheimer's and dementia cases.

Also, Mount Carmel Medical Center since 1985 has offered outpatient as well as inpatient services for people with Alzheimer's disease.

Support groups, family counseling services and publications are also available through the Columbus Chapter of the Alzheimer's Disease Association.

WHEN HOME care is not possible, nursing homes today are better equipped to deal with Alzheimer's patients than they had been. Medical personnel, says Malia, have become more knowledgeable about those with the disease and more sensitive to their needs.

State legislation 2 years ago allowed expedited approval of nursing home expansions for Alzheimer's patients, and five projects are under way to add about 450 beds. In each case, the unit will be affiliated with a hospital or research center.

Although there is no accurate census of those with the disease, Malia said the count is about 10,000 in Franklin County alone. About two-thirds of that number are cared for at home.

Malia said there needs to be better coordination of services at the local level and federal action to pick up some of the treatment costs now being paid by patients' families.

She said families are paying $32 billion annually for such care and treatment, with the federal and state contribution being about $8 billion.

But the most pressing need today is to increase support for research.

THERE HAS been a tenfold increase in Alzheimer's research spending since 1976, she said, but the current $67 million budget still only represents an investment of about $25 per patient, she said.

"Given the administration's posture on (cost) containment, federal expenditures on Alzheimer's research are consistent with this pattern of constraint. But ultimately, this is not cost-effective. There's going to be an incredible acceleration of this disease with changing demographics, and the amount of research now being done is very insufficient."

Today, about 3 million people in the United States suffer from Alzheimer's disease. But, according to the Congressional Office of Technology Assessment, the graying of the American population could produce a 60 percent jump in the number afflicted by the year 2000.
Alzheimer’s duplicated in mice
Lab animals with disease show few brain nerve cells

By JIM WHISLER
Lantern staff writer

Using strong concentrations of the B-complex vitamin choline is currently the most effective way to combat Alzheimer’s disease, but new treatments are being investigated, a university pathologist said Tuesday.

Dr. Ronald F. Mervis, director of brain aging and neuronal plasticity research and assistant director of pathology at University Hospitals, said these investigations are being enhanced by recent findings that enable researchers to duplicate the symptoms of Alzheimer’s disease in animals.

Alzheimer’s disease is a progressive, age-related disorder characterized by loss of memory, especially recent memory.

“In the majority of the people who become senile, it is due to Alzheimer’s disease,” Mervis said.

In the normal aging process, the branching and growing of dendritic spines in brain cells doesn’t stop, he said. The dendritic spines are an important link in the nervous system chain. “In Alzheimer’s disease patients, what we don’t see are very many (dendritic) spines,” Mervis said.

In a study made on groups of test mice, some of which were fed choline-enriched diets while others had choline-deficient diets, the choline-enriched diets were found to save, and in some cases to increase growth of, these spines, he said.

The test mice were also found to react differently to a passive avoidance test in which they had to choose between a brightly lighted chamber and a dark chamber, their preferred environment, where they received a shock. The enriched-diet mice remembered the shock and were more reluctant to enter the dark chamber than were the mice on choline-deficient diets, Mervis said.

This study helped to answer some questions about the disease, but still left researchers without an equal to Alzheimer’s disease in the animal world. Recently this obstacle was overcome by a process that involves destroying certain neurons in the brain, and their dendritic spines, with chemical acids.

These acids, called excitotoxins, cause the neurons to go into a state of increased action and burn themselves out.

These discoveries have given researchers new avenues to explore, and a viable means to progress in the search for the causes and cures of Alzheimer’s disease, but results won’t be immediate, Mervis said.

“We obviously have a lot more questions than answers,” he said, “The new ways we are just now investigating will take a year or two more to really answer any of the questions involved.”

Mervis said Alzheimer’s disease involves a wasting away of brain tissue, which causes the loss of memory. “The Alzheimer’s brain looks shrunk,” he said.

“In the mirror syndrome, a very late stage of the disease, the person’s mind is gone,” Mervis said. “He can walk into the bathroom to shave, and not recognize himself.”

One way researchers now diagnose the disease is to do a CAT scan (computerized axial tomography), and interpret the images it produces. But this method isn’t that effective yet, and a newer type of scan is better to detect the disease, he said.

The PET scan (positron emissions tomography) is more effective because it measures the brain’s metabolism, allowing doctors to detect a decrease in the brain’s use of glucose before there are signs of memory loss. However, this method requires large, expensive machines called cyclotrons, which are not readily available. Ohio State will have its own cyclotron soon, he said.

Anna Marie Malia, executive director of the Columbus Chapter of Alzheimer’s Disease and Related Disorders Association, said projections concerning the extent of Alzheimer’s disease predict that nationally about 6 percent of the population around 60 years old is afflicted with the condition.

“In industrialized nations where the longevity is greater, there is a greater at-risk population, so that by age 80 there is a 20 percent likelihood of having Alzheimer’s disease,” she said.

In Franklin County, about 10,000 people are afflicted with the disease, while in the state this number is in excess of 100,000, Malia said.
Enriched diet may help Alzheimer's patients

By Barb Connors
Lantern staff writer

Research at Ohio State suggests that a choline-enriched diet may help improve brain functions of people suffering from Alzheimer's disease, said an OSU assistant professor of pathology.

Ronald Mervis said researchers at Ohio State have discovered the brains of people with Alzheimer's disease have a depletion of the neurotransmitter acetylcholine, which helps transmit nerve impulses through the brain. This deficiency does not allow the brain to function properly.

Mervis conducted an experiment designed to simulate disease conditions in middle-aged mice. The mice were fed a diet rich in choline, from which acetylcholine is derived, over an extended period of time. He was able to demonstrate that animals that were fed choline showed improved learning as they aged.

More importantly, Mervis and his colleagues found the choline-enriched diet prevented normal age-related loss of connections between nerve cells.

Alzheimer's disease, named after the physician who first identified the disease, is characterized by diminished intellect significant enough to interfere with normal occupational and social performance. Symptoms of the disease may include speech disorders, faulty memory and apathy.

"What makes this disease so awful, is that it disables the mind yet allows people to continue living several years after the disease has been diagnosed," Mervis said. "Most people with Alzheimer's disease must be institutionalized for the last few years of their lives."

THE RESULTS of Mervis' experiment make him cautiously optimistic about the future of research for a cure for Alzheimer's disease.

"Improving brain functions in aging mice is not the same as curing Alzheimer's disease in humans," Mervis said.

While Mervis' research focuses on a means to prevent the onset of Alzheimer's disease, Leopold Liss, director of the OSU cognitive disorders clinic, said he thinks the key to curing Alzheimer's is to treat people after they begin to show symptoms of the disease.

"I am certain there is a possibility to treat these people (with Alzheimer's disease) symptomatically and enable them to function at a higher level," Liss said.

Alzheimer's disease has become a catch-all label for older people who show symptoms of the disease, he said.

"WE ARE mislabeling older people as having Alzheimer's disease because there are conditions which are treatable and reversible that look like Alzheimer's disease," Liss said.

Sometimes, Alzheimer-like symptoms are a result of poor nutrition, medications or infection, he said.

While these problems are normally solved easily, if the patient is misdiagnosed as having Alzheimer's disease, they may not receive the proper treatment and may continue to function on a less than normal level, he said.

Liss said he is optimistic about treating people with Alzheimer's disease because even people who are in advanced stages of the disease can be lucid at times.

"Some of my patients with Alzheimer's disease are totally oblivious to what's going on around them 95 percent of the time," Liss said, "but suddenly, for a brief period of time, they will understand everything you say to them and may even speak in complete sentences."

WHAT THIS suggests is that people with Alzheimer's disease do not lose their memory as some researchers once thought.

Instead, they suffer from misplaced and inaccessible memory functions, he said.

"This has tremendous social implications because it's important that care-givers remember to treat people with Alzheimer's disease as human beings instead of vegetables," Liss said.

Gregory Trzeblatowski, the principal investigator and director of the OSU Alzheimer's disease research center, said research into diseases of the elderly will become increasingly important since the number of people in the United States 65 years or older is expected to reach 34.9 million by the year 2000.
CORRECTION

In the July 6 of the Lantern a story entitled “Enriched diet may help Alzheimer’s patients” was incorrect. Ronald Mervis is conducting research concerning the natural aging process.
Local Alzheimer's care center first of its kind

By Lisa N. Zulick
Lantern staff writer

The new Columbus Alzheimer's Care Center is the first of its kind in the country, and its founders hope it will be the wave of the future in Alzheimer's care, treatment and research.

The specialized care center, at 700 Jasonway Ave., opened May 7th, as a non-profit organization in affiliation with the OSU College of Medicine through Dr. Leopold Liss.

Liss, professor of pathology and psychiatry and medical director for the care center, said the new facility, which has been in the dream stage for more than a decade, was essential.

"The public does not realize the true impact of Alzheimer's in our society," Liss said. "Our population is living longer and we will be seeing more cases. We must learn to deal with it in a current fashion."

Statistics from the Columbus chapter of the Alzheimer's Disease Association conclude that Alzheimer's Disease is a neurological disorder afflicting an estimated four million Americans. It is the fourth largest killer in the country and there is no known cause or cure for the deterioration of brain functions.

The center was developed and is governed by the Columbus Alzheimer's Treatment and Research Institute, which is a national volunteer organization devoted to the research, prevention and cure for Alzheimer's Disease and related disorders.

The Columbus Alzheimer's Care Center is a unique 42,000 square-foot, 100-bed facility, with the potential to accommodate up to 100 live-in residents.

The center, currently home to 22 Alzheimer's patients, has at least two potential residents undergoing an assessment program headed by the Director of Marketing and Admissions, Sharon Slaughter. The assessment procedure evaluates potential residents and their abilities.

"Each Alzheimer's victim is unique; no one patient is like another," Slaughter said.

This is why each patient's assessment is so vital in determining the needs of each individual and what kind of care will be needed. Slaughter added.

The center's main objective is to provide a setting that allows Alzheimer's victims to function at their highest level and to lead a dignified way of life.

Family support and therapy is also an important concern.

The motto of the center is "Accommodate, but don't overregulate," while the philosophy they live by is "Together we can make a difference." Caregivers try to provide routines for the residents that are as close to those they followed at home as possible.

Judy Moore, the center's director of nursing, said this puts the residents at ease in the new setting. Caregivers, family members and anyone else who is interested in the care of the resident are all partners in the care process. Everyone at the facility is on a first name basis.

"We all drop our egos at the front door," Dr. Liss said. "Teamwork is essential here. Everyone is equal."

The Columbus Alzheimer's Care Center is unique because of its architectural design.

The interior lighting is indirect and diffused to eliminate shadows, which can confuse Alzheimer's victims. Large, open spaces are designed to keep residents from feeling confined. All patterns of the decor are simple, non-agitation patterns.

The active inpatient unit, called the Program Unit, is the hub of the facility. This is where residents interact with each other and the caregivers. All the resident's rooms open into this area.

Residents are monitored by program attendants and nurses on a 24-hour basis. Also, an ankle band sets off an alarm if the residents try to exit the building without proper supervision.

Several activities, such as hand-eye coordination games and motion games are scheduled for residents. A 24-hour visitation policy allows family members, including pets, to visit.

Another unique feature of the center is the virtually drug-free atmosphere. Residents are not prescribed any drugs relating to their Alzheimer's, but might use prescribed drugs for other ailments, such as asthma.

"Drugs are the cheap, easy way out," Moore said.

In most nursing homes where patients greatly outnumber staff, sedatives are prescribed to keep Alzheimer's patients from being active. Liss said he strongly agrees with the non-sedation policy, and thinks more behavior modification can be done on patients who are not under the influence of drugs.

The cost of this kind of specialized care, however, is expensive. A semi-private room, for two residents, costs $95 per day, while a private room, for one resident, is $125 per day. Most of the resident's families pay for their care.

Alan Graves, a national Alzheimer's expert and board of trustees member for the Alzheimer's association, said, "Although it's still too soon to tell just what kind of effect the new facility will have on the community, it holds a lot of promise."

Graves spends most of his time and effort addressing legislative issues about Alzheimer's.

Graves' mother was diagnosed with the degenerative disease 15 years ago.

Graves said the association cannot endorse one specific facility but there are many good options for Alzheimer's victims in Columbus.
Fleeting memories, gripped by despair

By Mary Bridgman
Dispatch-Avoca Reporter

Red Skeleton comedy plays on the VCR. Residents are seated in three rows. Several nap. Some wonder. Some watch the movie.

Mary Passante rises from her front-row seat and clears loudly, "Mom, Mom." An aide helps seat her. She rises again. Then sits. Rises. Sits. Rises. Sits. The movie ends and an aide gently guides her to a lunch table.

"I'm in my 80s," Mary offers. "I'm trying to find my husband, Al."

Passante is one of 45 patients at the new $1.5 million Columbus Alzheimer Care Center. Here, patients never stop getting worse. Here, the familiar becomes unfamiliar. Here, family members become strangers. Achievements, forgotten. Memories, erased. The body deteriorates.

Mary's head turns. In a blink, her thoughts change.


Mary sits. "Well, that's that," she says.

Another unconnected thought invades. "Where's that thing that goes under the sink?" she asks no one in particular.

She asks for milk, then water, then hot chocolate. "That's good fish," she says. A server corrects her: "That's hot chocolate." Mary Passante nods, smiling. She rises again. "Ruthie, Ruthie," she calls.

Lunch is over and she sees her husband walking toward her. "Aldo. Aldo." Her face beams.

They sit together on a sofa, talking. Within minutes, she's asking, "Where's my AJ? Where's my AJ?" She no longer recognizes her husband of 40 years, seated next to her.

Passante, 87, is one of the younger residents at the Alzheimer Care Center, to which she was admitted four months ago. The 100-bed ranch-style center, at 700 Jasonway Ave. on the Northwest Side, opened in April.

Its goal: to lessen the tortured confusion and frustrations for those in the middle and late stages of Alzheimer's.

For Mary, dementia has erased a scrapbook of memories gathered over 40 years of marriage and motherhood: Summers on the New Jersey shore, perfect attendance at Ohio State University's home football games, concerts, travels with her husband, the South Side home where she was born, the multitude of seemingly insignificant events that shaped their love and life for almost half a century.

At Passante's, 70, visits his wife almost daily, watching the disease tighten its grasp. "That's the hard part," he said.

"Watching the pieces fall off bit by bit."

His wife, diagnosed with Alzheimer's 2 1/2 years ago, is worsening. She stares into space more often today than
you remember all the good times we had?" his wife asked him. He sensed a glimpse of reality and responded, "Yes, do you remember what day tomorrow is?"

Mrs. Passante smiled, knowingly. "Yes, it is our anniversary." But the next day, the memory was lost.

"You never get used to it," Mr. Passante said. "It's devastating." Devastating not just for spouses, but also for doctors. "I got there when I really need a mother," said Camille Passante Bates, 31, "And I'll hope she'll come back with "That's all right, Camille, that's the way life is." I'm just hoping for one second that she'll be there. But it never happens.

Two weeks ago, Mrs. Passante was having dinner with her husband and daughter at Bates' home. Bates desperately wanted her mother to recognize her.

"I held her face in my hands and said, "Do you know who I am? You have two daughters, and I'm the youngest. Do you know who I am?"

"Martha," Mrs. Passante answered.

There is no Martha in the family.

Mary Passante is one of an estimated 4 million Americans who have Alzheimer's, a disease that is taking a growing toll on more Americans three times their age and is twice as prevalent in women.

At the Columbus Alzheimer Care center, medical director Dr. Leopold Lisi is experimenting with interior design, activities and treatment to try to find how they affect patients.

Rooms and hallways are decorated in subdued tones. Pictures and lamps are abundant. Rows of fluorescent lights hang from the ceiling to dim, so that what can confuse patients and their depth-of-field vision.

Chairs and sofas are crafted to support the weakened muscles used to lessen the likelihood of falls. Sunlight streams into a hallway where patients and their families can sit in a quiet area of seclusion. The dining area is fitted with attractive wooden card tables, where residents are individually served. Framed photographs of patients hang outside each of their bedrooms.

A dozen children from the center's employee daycare program parade by the activity areas to sing Happy Birthday to residents. Family members are welcome anytime.

"It's just an experiment," said Lisa, also director of the Cognitive Disorders Clinic at OSU, "No one really knows how an Alzheimer center should be run or designed.

Residents are free to roam, but small transmitters worn on their ankles keep them in the center. If they try to leave, doors automatically lock. Movement and noise are constant throughout the hallways, where some residents walk miles each day.

Costs are not cheap at the 100-

bed facility, owned by the non-profit Columbus Alzheimer Treatment and Research Institute. A private room runs more than $45,000 a year; a semi-private room, more than $36,000. Additional costs for medication and labor on work can push costs even higher. Twenty beds are reserved for Medicaid patients.

Taking risks is an important part of the treatment, Lisi said. One risk he's banking on is reducing the patients' psychotropic medication to a minimum within the first few weeks of their admission.

"They will walk, and they will talk, and things will happen," said Lisa. But they will be more alert to the world around them, he said.

"What I have seen is that these expectations, the way they interact with each other. You see ladies sitting at the table talking to each other, and you listen in, and it makes no sense.

"But they have someone to talk to and someone to listen to. They help each other. It doesn't matter that it doesn't make sense."

The path Alzheimer's takes is different for each patient. It can turn them into two or three or even four different people, Lisi categorizes his patients into two (albeit inaccurate) groups: happy ones, oblivious to what they've lost or where they are; and tragic ones, who still grasp at reality, belligerent by their living memories, unable to stop their confusion.

Maggie Cranmer is one of Lisi's happy patients; Harvey Wright, one of the tragic ones.

In her mind, Cranmer, 83, is at a country club in California, happily playing golf, bridge and pool. When she's hungry, she orders a dinner drink and asks the staff to prepare the Alzheimer center to "put it on my tab."

When the nurse hands her apple juice, she tells her, "Oh, honey, you're a wonderful bartender."

Cranmer jumps from past to present as quickly as changing TV channels. She speaks of 1991 and 1941 in the samebreath. She recalls yesterday, forgets today.

She is obvious—and happy.

For Wright, the tragedy is all the wasted idle hours. After 50 years as an ophthalmologist and researcher, Wright still ascribes to contribute.

"I just feel I'm a square peg in a round hole," said Wright, who came to the center in July after his wife of 53 years die, "There's nothing for me to do that's productive. I've been looking at obituaries. I hate to see all my friends pass on while I'm still here."

Wright, 83, accepted the fact that he had Alzheimer's when his medical journals began to arrive at the center—addressed to him.

"My two daughters wanted me to come here so someone would be looking in on me," he said. "I thought that would be all right. Breakfast is always good."

Although Wright minimizes his situation, it had reached a crisis, according to one daughter. "We felt if we had left him at home, he would be dead by now," Pat Soyer said. "We saw no way he could function on his own.

Sometimes his memory fails, but if he waits long enough, he says, it comes back. "The patients (here) don't know where they are going to sleep tonight," he said, "or where they slept last night or how it all hook up.

"I can tell you it's 1991."

It's 6:30 on a Wednesday evening. Eleven people from eight families gather in a circle at the center.

These are the second victims of the disease. For them, Alzheimer's is one long funeral. But the support they give and take can make the emotional strain tolerable, the physical burdens bearable.

One by one, spouses, children and-in-laws share their week and their pain: A daughter has had to restrain her father from hitting others; a husband worries about the upcoming holidays; a daughter feels guilty about not visiting her mother daily.

Gertrude Bunner, who admitted her husband, Dan, five days earlier, is attending her first meeting. She looks imploringly at the unfamiliar faces around her.

"I was hoping to find some old ladies like me I could talk to," said Bunner, 75, still distraught over the decision to place her husband of 55 years, a retired physician, in the center.

The disease has unleashed the liars in him, and his frustration has turned to belligerence. In recent months, while still living in their West Side home, he would usher away his now unfamiliar son and grandchildren, barking at them, "I don't know you. Get out of my house!"

Mrs. Bunner has enough money to cover a year's rent. Then she doesn't know what will she will do. She hates the loneliness, the aloneness, not having her husband to lean on.

"I know death is bad," she said, "but this has to be worse. I feel like I've violated his trust by making this decision."

Violated trust, lost memories. A disease seemingly without end.

For those like Maggie Cranmer, Harvey Wright, Dan Bunner, Mary Passante and their families, the pain never ends.

"I wish it would end so we could all go on," said Camille Bates. Mrs. Passante's daughter. "But we don't know where we're going from here."

She paused. "I'll never get used to Mom having this. There is nothing good in it."

Nothing good.

For Mr. Passante, his wife was the one person who gave him the confidence to believe in himself after he lost part of one leg during World War II. The two met in an economics class at OSU after his discharge, while he was still feeling emotionally burned from the injury. She taught him to dance at the old Denkle-Wallik Hotel when women weren't supposed to ask men to dance. After that, he figured he could do anything.

"I miss her tremendously," Mr. Passante said. "Having a conversation. Where are you? Why did you leave me? I feel lonesome. I think about how it could have been. You spend all your life working, and it suddenly got to be Mary and I."

"We could have fallen in love all over again.

"We really could."
Lack of donors makes research brains scarce

By Julie M. Low
Lantern staff writer

Researchers at the Alzheimer Research Center at University Hospital need control brains to compare with the diseased brains they study.

Limited supplies of control brains from people who had healthy brains when they were alive are hampering Alzheimer's disease research at Ohio State, said Dr. Leopold Liss, neuropathologist and director of the research center.

Between 1985 and 1989, the center has received 296 brains for research, but only about two of those could be used as control brains, Liss said.

The Medical Biochemistry Department of University Hospitals has received three control brains and 28 Alzheimer's brains in the past seven years, said Dr. Akhlaq A. Farooqui, research scientist. Farooqui said he needs about four control brains a year for his research.

Suitable, healthy control brains for Alzheimer's disease research must come from an adult over the age of 65, Liss said.

"A decline in the number of autopsies is really the whole reason we don't have enough material to study," Liss said.

He said 60 to 70 percent of people who died 20 years ago had autopsies. Now, he said, that percentage has drastically dropped.

There are many reasons for this reduction in autopsies, Liss said.

"Hospitals used to have to perform a certain number of autopsies to receive certification, but those requirements have been drastically reduced," he said.

Liss said the high cost of autopsies is another reason for the decline in the numbers performed.

"Cost containment is a big factor. Nobody pays for the autopsies and the hospital has to absorb the costs," he said.

An autopsy at University Hospitals costs about $1,150, and health insurance does not cover the costs, said Sandy Benson, autopsy coordinator for the OSU Alzheimer Research Center.

Any patient or former patient of an OSU hospital can receive an autopsy free of charge, though, Benson said.

There are many other reasons why healthy people are not motivated to donate healthy brains, Liss said.

"Sometimes people decide they want to donate their brain to research, but there is no legal way a person can sign for their own autopsy. So, when they die, a close relative can decide not to have the autopsy," he said.

"I can say 10 times that I want my brain given to research, but once I am dead I can't open my mouth again," he said.

Also, death of a loved one is very traumatic, and the survivors might believe the person had suffered enough, he said.

According to a recent article in The Chronicle of Higher Education, many scientists nationwide have experienced difficulties in obtaining control brains as well as diseased human brain tissue for research.

The OSU Alzheimer Research Center has had little trouble getting brains from people who had Alzheimer's disease because the center works with the Alzheimer's Association in Ohio, Liss said.

The Alzheimer's Association encourages family members of those with Alzheimer's to donate the patients' brains, he said.

Benson said those who want to have an autopsy done get in touch with her and she then sends them clinical information and form for an autopsy permit.
Columbus to have Alzheimer's center

By Sylvia Brooks
Dispatch Human Services Reporter

The Ohio Department of Health has approved construction of a $3.5 million center for 75 Alzheimer's disease patients at 2841 E. Dublin-Granville Rd.

The Wendt-Bristol Center for Alzheimer's and Related Disorders is to be built by American Living Centers, a subsidiary of the Wendt-Bristol Health Care Corp. Wendt-Bristol, in turn, is a subsidiary of Temco National Corp.

The center is to have service agreements with Ohio State University Hospitals, the OSU College of Medicine and the Ohio University College of Osteopathic Medicine.

An outpatient geriatric clinic and adult day-care unit also are planned and may be ready a year after the nursing center opens. This combination of services is not currently available in Columbus.

Peter Somani, acting director of the Ohio Department of Health, approved the project Friday. He said it "appears to be financially feasible and is needed to meet the special needs of the people who have Alzheimer's disease."

Murdith Inc. had planned a $4.3 million home on the West Side for Alzheimer's patients, but the project couldn't muster enough financing, according to a memorandum by Tom Moore, a senior consultant to the health department. All parties agreed to transfer the certificate of need to American Living Centers, officials said.

The Coalition for Cost Effective Health Services approved the project. Moore's memo says that based on rates of Alzheimer's disease in various age groups, 7,496 people may need residential and nursing services. He said the owners "have estimated that there will be 8,728 people having the disease by 1995."

An estimated 62 percent of the patients are expected to be covered by Medicaid, 30 percent by private funds, and the rest by Medicare.

The center is expected to have a staff of 62, including 20 nurses, 24 nurse's aides and three rehabilitative aides.

Officials said the center will recruit professional staff from local colleges and universities.
Caregivers of Alzheimer's patients suffer own problems, OSU study finds

Caregivers of Alzheimer's patients suffer more instances of depression, anxiety and infectious disease, according to an Ohio State University study.

One-third of the caregivers studied have experienced anxiety or depression, compared with 8 percent of the older adults in a control group.

Among the caregivers, spouses have been more prone to depression; grown-up children, to anxiety.

"It's the chronic stress that makes them more vulnerable to psychological problems," said Ellen Redinbaugh, an OSU graduate research associate in psychology.

The study, begun in 1987 by Janice Kissel-Glaser and her husband, Ron Glaser, started with 200 central Ohio caregivers and 150 people in a control group. It will continue until 2002, funded with $8.4 million from the National Institute of Mental Health.

An estimated 6 million Americans are caregivers; 75 percent are women. Those caring for loved ones with Alzheimer's disease and related dementias suffer the most stress.

The antidote, Redinbaugh said, is emotional support: "Family and friends are the most valuable resources to help them through."

Those who use problem-solving skills, she said, also are less likely to become depressed.

Depression among Alzheimer's caregivers often is triggered by an unrelated event. When the event is resolved, the depression typically abates.

Although grown-up children seem to suffer less stress than spouses, they may face additional stress.

Redinbaugh offered a scenario: A daughter with primary responsibility for a parent gets a visit from an out-of-town brother, who has a 20-minute conversation with the parent and finds "nothing wrong."

"This is very common," Redinbaugh said. "Siblings don't understand the magnitude of the illness because they are not with it day in and day out."

GETTING ON

Despite the stress, caregivers in the OSU study remain faithful to loved ones — and fight nursing-home placement to the end.

The researchers now are studying the effects of flu shots on caregivers' immune systems.

More caregivers and control-group subjects are needed. Participants must receive an annual, free flu shot and give five blood samples a year; they get paid $80. Call 293-4913.

MARY BRIDGMAN

Volunteers needed

The Alzheimer's Association of Central Ohio is hoping to reduce caregivers' stress with a new respite-care program that targets minorities.

"We want to provide assistance to those for whom the cost of paid respite care is a hardship," the association's Gladys Cummings said.

Volunteers will be insured and trained. Training sessions will take place from 8:30 a.m. to 2 p.m. Saturday and Oct. 9 at St. Philip Lutheran Church, 1506 E. Long St. Lunch will be provided both days.

Volunteers, who must be high-school graduates 18 or older, will be expected to provide eight to 10 hours of service a month.

For more information, call Cummings at 457-6009 (outside Columbus, 800-441-3222).

Accent Reporter Mary Bridgman writes about aging issues on Sundays.
March 26, 2001

DAFFODIL-BASED DRUG ASSISTS ALZHEIMER'S PATIENTS

COLUMBUS, Ohio – A medication studied at The Ohio State University Medical Center that is derived from daffodil bulbs is one of the latest drugs approved by the FDA to treat Alzheimer’s patients.

Dr. Douglas Scharre, a neurologist and key researcher at OSU Medical Center, said the medication is for patients who have mild to moderate Alzheimer’s disease; and while it’s not a cure, helps alleviate the symptoms of the devastating brain disease.

“Patients who have used the medication are able to retain a higher degree of cognitive skills compared to patients not using the drug at all,” he said. “Also, we have seen improvement with behavioral problems that are associated with Alzheimer’s disease, like hallucinations, anxiety and restlessness,” he added.

Galantamine, which will be marketed as Reminyl, helps to suppress Alzheimer’s symptoms by enhancing the release and controlling the breakdown of acetylcholine, a brain chemical necessary for nerve cells to communicate. Acetylcholine plays an important role in laying down new memories, said Scharre.

-more-
“While there are other Alzheimer’s medications on the market, this medication gives patients more options for treatment and has few side effects,” said Scharre.

OSU Medical Center had 22 participants out of 978 nationwide in one of the US galantamine studies, said Scharre.

Alzheimer’s disease is a progressive illness in which nerve cells degenerate in the brain and this leads to dementia and eventually death, said Scharre. The disease affects four million Americans each year and there is no cure for the disease.

The Ohio State University Medical Center has consistently been named one of America’s best hospitals by US News & World Report. The Medical Center is widely recognized for programs in heart care, cancer, orthopedics, organ transplantation, rehabilitation, women’s services and neuroscience. University Medical Center is the only academic medical center serving central and southern Ohio and cares for 3,000 patients daily.

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