

Colitis Tied To Family Type

➤ A PARTICULAR family type, studied in California, may be related to the appearance of ulcerative colitis in children.

The relationship is purely tentative at present, based on a study of only eight families. But all eight were "strikingly" similar in their degree of restrictiveness, Drs. Don D. Jackson and Irvin Yalom of Stanford University's Mental Research Institute in Palo Alto, Calif., reported. The Institute is well known for its research on the family.

As part of a larger study linking family type with psychosomatic illness, Drs. Jackson and Yalom chose eight young patients with ulcerative colitis. The families were interviewed in several 90-minute sessions.

All could be described as "restricted," both within the family and socially, the psychiatrists reported. Parents rarely went out together and seemed to have little or no social life. They did nothing about the lack of it in their children. Since the families were white and middle class with no particular financial problems, they would normally have an opportunity to engage in a wide variety of activities, but did not, the psychiatrists said.

Restrictions operated within the families as well. Humor, novelty and creative response seemed to be discouraged.

Describing the interviews, the doctors commented, "Voice tone is often quiet and expressionless. Arguments and emotional comments, anger and affective responses, are in most instances avoided. There appears to be a conscious awareness of pain, disharmony and unhappiness in the family and yet an agreement that this will not be mentioned in front of other family members."

Typical of all eight was the Iron family, which one observer called the "most deadly quiet" family he had ever seen. Interviews were marked by embarrassment, soft voices and silence. They seemed afraid to express themselves and dissent was quickly covered over.

The family claimed to "stick together," a solidarity the psychiatrists labeled "pseudomutuality."

Restrictiveness even extended to physical posture, they reported in the Archives of General Psychiatry, 15:410, 1966. Characteristically these families held themselves in rigid, wooden attitudes.

Drs. Jackson and Yalom believe it unlikely that such family restrictiveness specifically causes ulcerative colitis—inflammation and ulceration of the colon. Rather the stress produced in these families may enhance what is already a genetic predisposition to the disorder.

Memory and Aging Biological Cousins

By PATRICIA McBROOM

➤ The biology of memory and aging may be more closely related than anyone has so far realized. In a rare encounter, scientists pursuing separate studies in memory and aging met in New York for the 19th annual meeting of the Gerontological Society and realized they were talking about a common concern—protein synthesis—in one case as the physical foundation of memory and in the other as the central problem in aging.

As Dr. James E. Birren of the University of Southern California commented, by understanding how memories are laid down in the brain, "we may come close to understanding the nature of aging."

The basic assumption concerning memory is that permanent physical traces in the brain somehow require the manufacture of new protein—the building blocks of cells.

Aging cells, on the other hand, are marked by reduced ability to synthesize protein, noted Dr. Birren.

Moreover, with advancing age, a substantial number of neurons—nerve or brain cells—simply disappear.

This could have two explanations, said Dr. Birren. Either the neurons wither away from lack of new protein or they go out of order because the protein they received was wrong—synthesized with the wrong instructions.

Dr. Birren said one scientist working on the problem believes that aging lies in increased production of an errant enzyme which so disrupts the normal chemical chain of events that it ends up building (catalyzing) inappropriate and unusable protein.

A crucial link in that chemical chain for both memory and aging is the transfer ribonucleic acid (RNA). RNA has the dual job of transferring the genetic code pattern to new protein and simultaneously stimulating new protein.

Within recent years, a drug—Cylert—highly touted here as a "memory pill," was developed and is being used in Europe as a stimulant. It is being investigated—in the U. S.—for its suggested ability to enhance RNA production and therefore protein synthesis, with the end result a better memory.

According to Dr. D. Ewen Cameron of the Veteran's Administration Hospital in Albany, N.Y., who has been testing Cylert in the aged, the pill does improve memory in particular individuals.

But Dr. Birren, along with another symposium member, Dr. Bernard Agranoff of the University of Michigan, weren't convinced.

It has never been proven, said Dr. Agranoff, that Cylert would actually stimulate RNA production in the brain, despite positive results in test-tube and rat experiments. He said a recent attempt to duplicate rat experiments—in which Cylert apparently had such a salutary impact on their learning—failed.

Contradictory results with the memory pill underscore the very great difficulty scientists face in having no other measure of memory than an individual's performance.

As one speaker pointed out, a man, exhausted by the day's work, may be unable to recall a familiar name, but the memory is nevertheless there.

Dr. Carl Eisdorfer of Duke University made the same point when he questioned whether the aged really suffer as great a loss in memory power as it might seem. He said he has tested hundreds of subjects and found that the older person's performance score was off mainly because of a higher level of anxiety than in the young, not poorer memory.

If Cylert did improve performance in the elderly, Dr. Birren suggested, improved nutrition, not improved learning ability, might be as reasonable an explanation.

He said without more sophisticated tests, "even if we had a drug to improve memory, we wouldn't know it."

To make matters more complicated, memory is at least two processes: a short term memory—probably a kind of electrical "reverberating circuit"—and a long term memory, in which protein synthesis theoretically consolidates the physical trace.

Dr. Eisdorfer's work, for instance, would concern short term memory and probably have little relevance to research in protein formation.

Given these two theoretical processes, Dr. Agranoff told Science Service that memories could be laid down in any one of three ways.

They could either require totally new cells to be formed or something less than a cell, such as new connections between neurons. The third possibility is that experience somehow affects the cytoplasm of cells already established, modifying it so that stable RNA is stimulated to create new protein.