Is Schizophrenia in the Blood?

Researchers report successful treatment of schizophrenia through hemodialysis and the identification of what may be a "schizophrenia compound" filtered out of the blood in the process. But few scientists are convinced.

BY JOEL GREENBERG

At first thought, it might seem like removing a gallbladder to treat hemorrhoids. "One psychiatrist has told me I'm crazier than the people I'm supposed to be treating," says Robert Cade, director of renal medicine at the University of Florida. Six years ago, Cade began performing renal dialysis on chronic schizophrenic patients who had no sign of kidney disease. Now, he and others are reporting impressive rates of success with the technique.

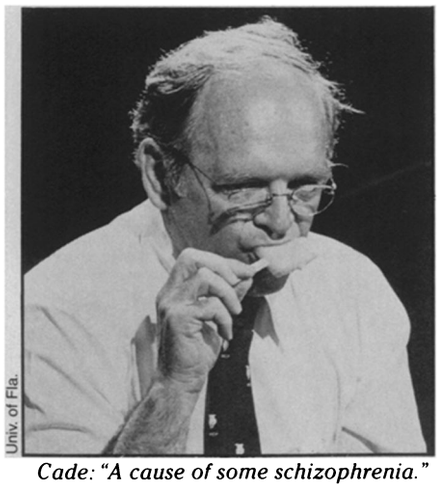
In the process, persons diagnosed as schizophrenics undergo six-hour blood-cleansing sessions as if they were being treated for kidney failure. Cade and former Florida colleague Herbert Wagemaker, now director of inpatient pyschiatry at the University of Louisville, dialyze each patient once a week for 16 weeks, then every other week for 16 weeks and finally once a month for an indefinite period of time.

Results thus far are considered tenuous, if not suspect, by the majority of the psychiatric community. Even Cade — who developed "Gatorade" drink — and Wagemaker volunteer that their work is experimental and "preliminary." "If our work can't be backed up by others, I'll stop," Wagemaker says unflinchingly.

But the two researchers, along with a handful of other investigators in the United States and several other countries, are far too encouraged at this point to discard dialysis of schizophrenics. Cade reports that 16 of the 25 patients he has dialyzed since 1972 "have either gotten well or improved enough to leave the hospital and go to work." Among Wagemaker's 15 subjects, 10 have shown substantial improvement: Psychiatric rating scores and symptoms have dropped into the normal range; thinking and behavior are considered normal; their "quality of life" — participation in school, work, family and social activities — has jumped significantly. The treatment also includes some counseling or psychotherapy, but not an extensive amount, according to Cade.

And the improvements, they stress, have come with long-term schizophrenics who have failed to respond to wide varieties of drugs and other treatment over the years. Wagemaker's patients range from 18 to 34 years old and have been hospitalized from three to 15 times during the last two to 15 years. Cade's subjects have similar histories, including his first patient, a woman who had an IQ of 130 but who had been in and out of state hospitals for 10 years. In their first meeting, she told Cade she had "discovered the secret to making the world a great place to live," and then demonstrated by pasting paper on his office wall and drawing lines through it. The woman, still on dialysis, has been symptom-free for five years, he reports. Another woman was "so impaired and paranoid that she taught her third grade class from the cloak room," Wagemaker relates. On the verge of suicide after years of unsuccessful treatment attempts, she entered Cade's program and is now back at school and considering continuing her own education.

Until this year, there were lots of theories but practically no scientific evidence concerning *why* cleansing the blood regularly appeared to alleviate symptoms in some schizophrenics. Recently, however, biochemical analysis of the dialysate (the bath used to wash the blood) in Cade's project isolated abnormal amounts of an unusual beta endorphin (a short string of amino acids active in the brain) from the subjects' blood. The compound, called leucine-endorphin, appeared in concentrations 10 to 100 times higher than normal after the first dialysis procedure. After the eighth week, the level was down to normal, according to Cade.


Univ. of Fla.

Cade: "A cause of some schizophrenia."

"We've come upon a cause of some schizophrenia," Cade says bluntly. "It may be one of many." Wagemaker is slightly more cautious. "We're not absolutely sure this is a schizophrenic compound," he says. But he notes that when the compound has been injected into test animals, it has caused convulsions and "behavioral symptoms." "It's interesting ... we're looking at it," Wagemaker says.

Not all experiments involving the use of dialysis for schizophrenics have met with such success. In a survey of 26 centers and 50 patients who had *both* renal failure and schizophrenia, it was found that schizophrenia symptoms were improved in just eight of the patients and were unchanged in 40. Though the results "indicate that schizophrenic patients do not improve with hemodialysis," the researchers — from the Veterans Administration and the Univeristy of Michigan — suggest in the June AMERICAN JOURNAL OF PSYCHIATRY that only further controlled studies will yield conclusive findings.

In an official policy statement on the procedure, the National Institute of Mental Health urges "great caution before an expensive, potentially hazardous, unproven treatment is given to a portion of patients labeled schizophrenic." NIMH, however, says it "will continue to investigate this and any other potential treatment for this serious disorder." In a recent television interview, NIMH's Loren R. Mosher, director of the Center for the Study of Schizophrenia, said Cade and Wagemaker "have not yet proved it to me. Until further research is done ... in several centers with relatively comparable results, I am not willing to espouse natural dialysis as a treatment of schizophrenia."

Cade and Wagemaker do not appear to differ appreciably with their critics on the point. "We need other studies ... at least 10 other centers," Cade says. "Then I say, let's wait and see ... maybe one to five years." Wagemaker cautions that the treatment is "way too premature — we need at least one to two years more research. By no means are we out of the experimental stage." Although he says results thus far have been encouraging, Wagemaker adds, "I hope hemodialysis centers for schizophrenics do not start up all over the place." □