Maternal alcohol use is the leading known cause of preventable birth defects and developmental delays. The common use of alcohol by child-bearing-age women, a high incidence of unplanned pregnancies, and the fact that alcohol can damage an embryo at a time when pregnancy frequency has not yet been recognized, are major factors accounting for the high incidence of alcohol-induced congenital disorders. Fetal alcohol syndrome (FAS) is at the severe end of the spectrum of alcohol-related birth defects. Fortunately, FAS and other prenatal alcohol-related disorders are 100% preventable if a woman does not drink alcohol while she is pregnant.

Education and awareness about the effects of alcohol on the fetus are keys to prevention.

That message is now being disseminated far and wide by Kathy Sulik, Ph.D., and Marianne Meeker, Ph.D., of the UNC Bowles Center for Alcohol Studies. These scientists work diligently with educators to teach students about FAS and other alcohol-related birth defects. With support from the National Institute of Alcohol Abuse and Alcoholism (NIAAA), they were instrumental in developing Better Safe Than Sorry: Preventing a Tragedy, an interactive science-based curriculum for middle and high school students.

Overstreet continues his work targeting the alcoholic's craving for alcohol. He and his collaborators have recently identified a new herbal extract that potently reduces drinking in P rats but does not affect their food intake. This pattern of results suggests that the anti-craving effects of the new herbal extract may be specific to alcohol—an important characteristic for a potential therapy for alcoholism. Possibly, the herbal remedies affect alcohol drinking by modifying the animal's craving for alcohol.

Alcoholic drinking is motivated not only by craving, but also by the need to feel the same effect. Dr. David Overstreet, Professor of Psychiatry and Bowles Center researcher, has sought to identify drugs that can prevent withdrawal-motivated relapses to drinking.
The development of medications to supplement treatment of alcoholic diseases has many hurdles to overcome. These hurdles include cost, acceptance by the treatment community, and the need to group multiple medications to a heterogeneous group of individuals who suffer from alcohol use disorder. I like to think that the advances in medication treatment that have occurred in the past will be followed by similar advances in medication for alcoholism in the twenty-first century.

At the beginning of the twenty-first century, cancer was a poorly understood disease with few treatments. There was a stigma associated with cancer and little hope a person could do for a cure. Now each patient’s cancer is specifically assessed with multiple diagnostic procedures that determine the specific nature of the cancer, often including genetic and cellular pathways by biopsies. Health professionals promote early identification and treatment as among the most important components of effective therapy. Therapy often involves multiple medications given in specific sequences that have been shown through extensive clinical trials to be best for specific cancers. Patients are followed for many years after initial diagnosis, with effective treatment defined by 5 years of cancer remission. I believe this is the future of alcoholism treatment.

We will encourage early identification of problems and initiation of treatment before patients hit bottom. Each individual will be assessed for specific subtypes of alcohol use disorder. Each patient’s treatment, including both behavioral and medication therapies, will be specific to the individual and may include multiple medications in an appropriate sequence to help reduce key elements of alcoholic disease including craving, anxiety, and other elements that may be specifically important to that patient’s success. Assessments of success will be extended to 5 years or more as is appropriate for a chronic recurring disease such as alcoholism. Insurance will cover medications, clinic time, follow-ups, and costs associated with implementing medications and extended treatment. Treatment will be more effective and will better serve the needs of patients.

The studies that Dr. Overstreet is doing to define various medications focused on craving or withdrawal anxiety will help define which medications are most useful for patients with varying degrees of craving and/or anxiety. Dr. Overstreet’s studies have included components of genetics and environmental stress that contribute to alcohol problems and show which medications are best used to address each individual component. Ultimately, these studies will form the foundation of new medications specifically designed to help each patient individually. In the future, I am confident we will see dramatic improvements in the use of medical diagnostic tools and treatments for alcoholism. It will happen, the only question is how fast it will happen. Dr. Overstreet is helping to make it happen soon.

“We’ve got to attack the problem from multiple angles,” says Overstreet. “Because alcoholism is a multifaceted and multiply determined disease, combinations of interventions, including polypharmacy, will probably be essential. For example, a CRF antagonist may be useful for addressing withdrawal-associated anxiety whereas another drug or intervention may be necessary to reduce motor symptoms of withdrawal. We’re working on developing promising leads for interventions that may one day prove useful for alcoholics.”

The Director’s Column

Fulton T. Crews, Ph.D.
Bowles Center for Alcohol Studies

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