Early Detection, New Drugs Aid Sickle Cell Victims

By Steve McCollum
Bowman Gray School of Medicine

Sickle cell anemia strikes hardest at African Americans. As many as one in eight blacks carries the genetic trait for sickle cell, and one in 350 in North Carolina actually have the disease.

The disease causes red blood cells to collapse into a sickle shape at the time they are transferring their load of oxygen to the body's tissues. These sickled cells can then clump together, creating clot-like blockage of the vessels and lead to stroke, severe pain, anemia which decreases tolerance for exercise, and even decreased ability to fight infection.

A screening program implemented in North Carolina in 1986 identifies at birth black infants who are either carriers or have the disease. Genetic educators and counselors like James Rogers, Jr., with the Winston-Salem Sickle Cell Program of the Division of Maternal and Child Health of the N.C. Department of Environment, Health and Natural Resources, refer these infants and their families to one of the state's five comprehensive sickle cell treatment centers.

"We've probably picked up 40-50 babies at our center through this screening program," said Debbie Boger, R.N. and coordinator of the Pediatric Comprehensive Sickle Cell Anemia Program at the Bowman Gray/Baptist Hospital Medical Center, the only center in the northwest quadrant of the state.

"This has saved lives because we're able to get them on treatment much earlier," added Boger.

There is no cure for sickle cell anemia. So far treatment has all been targeted at simply reducing the symptoms.

Not that long ago, the expected life span of a person with sickle cell disease was down in the 30s. Now it has edged to the mid-40s and may climb higher yet if some new treatment methods prove fruitful.

Boger says the most promising treatments involve bone marrow transplantation and a couple of drugs that increase the level of fetal hemoglobin, which is not susceptible to the sickling process and therefore increases a person's resistance to the disease.

These drugs are approved for adult usage only. They are used primarily to decrease symptoms in patients who are having particularly severe courses of the disease.

The Pediatric Comprehensive Sickle Cell Anemia Program at Bowman Gray/Baptist Hospital Medical Center currently serves 180 patients, ranging in age from infancy to 21 years.

"We provide educational material and information to the parents and follow the children every three to six months for the first two to three years of life, and yearly thereafter," said Boger. "We can care for any type of medical problem they might confront as a result of their sickle cell disease."

The program also employs a social worker to help with financial and emotional issues.

For more information, call Boger at 716-4324 or Rogers at 761-2390

FoCaS Project Targets Low-Income Black Women

By Karen Richardson
Bowman Gray School of Medicine

The Reynolds Health Center and faculty of the Bowman Gray School of Medicine have undertaken a four-year project to increase the use of cervical and breast cancer screening among low-income, minority women in Forsyth County.

The Forsyth County Cancer Screening Project, called FoCaS, will concentrate on women over age 40 who live in housing communities in Winston-Salem. It is being paid for with a $2.1 million grant from the National Cancer Institute.

"This project emphasizes prevention and is targeted to the most needy in our African American community," said Dr. Ramon Valez, professor of internal medicine at Bowman Gray and medical director of Reynolds Health Center.

The first part of the project was to interview women about their knowledge, attitudes and use of breast and cervical cancer screening.

Minority women are less likely to receive mammograms, which are used to detect breast cancer, and Pap smears, which screen for cervical cancer. These tests help detect cancer at an early stage, when there is a better chance for cure.

Dr. Electra Paskett, assistant professor of public health sciences at Bowman Gray School of Medicine, said the survival rate for black women with breast cancer is lower than for white women. This is because black women are less likely to be screened so their cancer is diagnosed at later stages of the disease.

Educating women about the importance of screenings is a major part of the project. FoCaS kicked off its education efforts with a special Women's Fest in May at One Triad Park. The event offered free diabetes, cholesterol and blood pressure screenings and information on cancer, heart disease and cholesterol.

The first phase of FoCaS was to interview women about breast and cervical screening.

Later this summer, community classes will be offered at Reynolds Health Center and throughout the community.

The project is also targeting health professionals—they will be taught to improve their examination techniques and encouraged to refer women for screening.

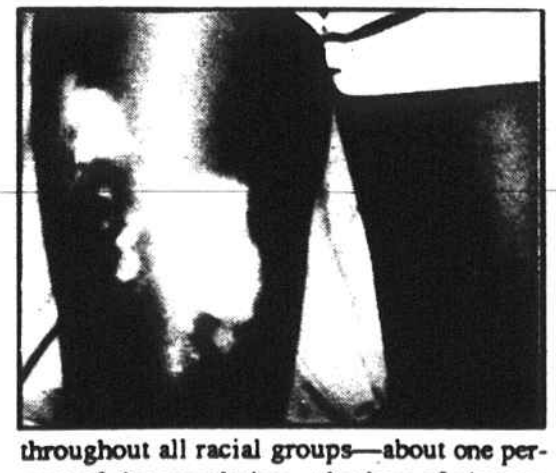
The third phase of the project will compare results in Forsyth County with women in Guilford County who were not the focus of the educational campaign. Then, an educational campaign will be launched in Greensboro housing communities.

Michael Jackson brings Vitiligo to Nation's Attention

By Wayne Thompson
Bowman Gray School of Medicine

When Michael Jackson announced that he had vitiligo, he brought national attention to a little known and unpredictable disease that can be emotionally devastating.

Although present in equal numbers



throughout all racial groups—about one percent of the population—the loss of pigment caused by vitiligo is much more visible in darkly pigmented blacks.

"It is easier to see and, because of that, it is more of a concern among blacks than whites," said Dr. Paul D. Wortman, assistant professor of dermatology at the Bowman Gray School of Medicine.

Wortman notes, however, that doctors, such as Pearl Grimes at Martin Luther King Jr.-Drew Medical Center in Los Angeles, continue to learn more about the disease. He said that the research suggests three explanations for vitiligo and its variations.

In the first, the immune system forms antibodies against antigens in the melanocytes, or the pigment-producing cells, possibly leading to their destruction. The second involves dermatomes—zones of skin supplied by specific nerves.

The nerve endings serving that specific area of skin may release substances damaging the pigment-producing cells. "This type of segmental vitiligo can be very localized, perhaps affecting only one dermatome," Wortman said.

The loss of pigment may also be due to substances created within the melanocyte during the manufacture of pigment that in turn may damage the cell.

A genetic link is also suspected in vitiligo. According to Wortman, about 30 percent of the patients report family histories of the disease. Vitiligo sufferers are also at increased risk for ocular problems, thyroid disease, diabetes and anemia.

Kidney Failure High Among African Americans

By Wayne Thompson
Bowman Gray School of Medicine

The hunt is on for the genetic link believed responsible for the markedly high rates of kidney failure among African Americans.

"With all types of kidney disease, blacks are four times as likely to get kidney failure than whites," says Dr. Barry Freedman, assistant professor of internal medicine (nephrology) at the Bowman Gray School of Medicine.

"In the Southeast, African Americans are at 15 times greater risk for hypertensive renal failure and typically develop renal failure 10 years earlier than whites," he said. "When you are a kidney specialist and see these kinds of disparities, you ask why this is happening. If we can prevent end-stage renal disease from ever developing, it would save a lot of suffering."

Freedman is the clinical component of a research team that will study the DNA extracted from blood samples of 50 to 100 pairs of African American siblings undergoing dialysis over the next five years.

Tipped off by clusters of kidney disease in some African-American families, researchers at Bowman Gray and Howard University are studying a gene common to four different forms of the disease.

Joining Freedman are colleagues Dr. Donald W. Bowden, associate professor of biochemistry and internal medicine, and Dr. Eugene Heise, associate professor of microbiology and immunology at Bowman Gray, and Dr. Georgia Dunston, Associate professor of microbiology at Howard University.

Bowman Gray hopes to be part of the multi-center AASK trial (African-American Study of Kidney Disease) when it begins next year. The study will use a more aggressive regimen of antihypertensive therapy to lower the blood pressures of blacks with kidney disease.

In previous trials, blacks have lost more kidney function than whites even after taking antihypertensive drugs.

To guard against kidney disease, Freedman says African Americans should have their blood pressures checked regularly. His advice to those with family histories of disease, who are nine times more likely themselves to develop renal failure:

"Take advantage of all the community resources you can," he said. "Have your blood pressure checked and have your urine and blood tested for evidence of kidney disease yearly."