Homing in on the prostate cancer gene

Researchers have zeroed in on the location of a gene linked to prostate cancer, according to a new report. The finding may eventually lead to a genetic test that would foretell some men's risk of prostate cancer.

The prostate is a walnut-sized gland that surrounds the male urethra. Prostate cancer is common, afflicting 340,000 men in the United States each year and killing an estimated 40,000.

Jeffrey M. Trent of the National Center for Human Genome Research, part of the National Institutes of Health in Bethesda, Md., and his collaborators studied North American and Swedish families with a history of prostate cancer. Using molecular techniques, the researchers combed the genome for a gene that, when mutated, increases the likelihood that a man will develop prostate cancer. Their study shows that such a gene is located on the long arm of chromosome 1, one of the 23 pairs of human chromosomes. The team published its findings in the Nov. 22 SCIENCE.

The study indicates that the gene accounts for about 30 percent of all cases of inherited prostate cancer. Scientists believe it may also underlie some cases of noninherited prostate cancer, which accounts for 91 percent of the incidence of the disease.

Black men in the United States suffer the highest rate of prostate cancer of any population studied. The two U.S. black families included in the new study had the mutant gene, which the researchers have dubbed *hereditary prostate cancer 1*.

The team must now identify the actual gene and determine its function. Once they do, they may be able to offer families a blood test to identify the mutant gene. If prostate cancer is caught early, it is treatable, so the researchers believe that a genetic test could be a lifesaver for some men.

Antibiotic-eating germ alarms doctors

For 50 years, doctors have been assailing bacteria with the best antimicrobials science can devise, but the bugs have shown a remarkable ability to adapt to the onslaught. Bacteria not only survive, they thrive. Worse, they continue to feast on people, which is why doctors are so concerned about antibiotic-resistant microbes.

Now, researchers at St. George's Hospital Medical School in London say they have isolated a bacterium from two patients that is not only resistant to an antibiotic but actually dependent upon it. This bacterium, a strain of *Enterococcus faecium,* cannot survive without a steady diet of vancomycin, report Nadia Farrag, Ian Eltringham, and Helen Liddy in the Dec. 7 LANCET. This finding suprised the researchers because vancomycin is one of the most potent antibiotics known.

The two patients were men in their sixties. One had a ruptured esophagus that required emergency treatment, and the other had undergone prostate cancer surgery. Both developed *Enterococcus* infections and were treated with vancomycin. The antibiotic initially seemed to banish the infection, but the bugs bounced back. When researchers began testing the germs, they found the vancomycin-dependent strains, which alarmed them. "Have we at last witnessed the emergence of a true superbug?" the trio asked, tabloid-style, in LANCET.

Mark Wilks, a microbiologist at St. Bartholomew's Hospital Medical College in London, blames this "rhetorical flourish" for "elevating an interesting laboratory phenomenon to the status of yet another health panic."