Using genetic testing to get a grip on prostate cancer

By ACSH Staff — April 10, 2013

If there is one area that has been clouded by confusion in recent years, it is the detection and treatment of prostate cancer. The prostate specific antigen (PSA) test, which became a routine screen in 1994, has come under considerable fire lately, even to the point that groups such as The United States Preventive Services Task Force [1], the American Urological Association, American Cancer Society, and American Society of Clinical Oncology [2] now recommend against using it for routine screening purposes.

The main limitation of the test is that it detects all types of prostate disorders: cancers, both indolent and aggressive, infections, as well as other benign changes in the prostate, such as enlargement (BPH). Many believe that this creates more problems than it solves, especially since the PSA test often leads to invasive, unnecessary procedures fraught with serious complications, and provides little guidance about what to do next.

But this may have changed. Using genetic analysis, researchers have determined that the BRCA1 and BRCA2 genes, well known for increasing the incidence and mortality of breast and ovarian cancer in women, may have a role in prostate cancer as well.

A study published this week in the Journal of Clinical Oncology demonstrated that patients who have prostate cancer and hereditary mutations in the BRCA2 gene have a worse prognosis and lower survival rates than patients without the mutated gene.

David Olmos, Head of the Prostate Cancer and Genitourinary Tumours Clinical Research Unit at the Spanish National Cancer Research Centre says "Whilst the majority of patients with prostate cancer have an excellent prognosis, one of the biggest challenges we face in daily clinical practice is the difficulty of identifying those patients in which the illness can be fatal."

For example, patients with the mutation and whose disease had not spread at the time of diagnosis had a 23% chance of developing metastasis over the following five years, compared to 7% of those patients without the mutation. Five years after diagnosis, 19% of BRCA2 mutation carriers with early-stage disease had died, compared with 4% of those without the mutation.

Prostate cancer is the most common cancer in men, and accounts for almost 30,000 deaths per year. Despite those daunting stats, the diagnosis and management of the disease becomes more controversial each year, it seems. I don't think this new report will be a breakthrough, however, given the infrequency of finding the BRCA mutation. But among that group, the significantly worse prognosis will be a major guide toward more aggressive treatment and monitoring, if confirmed in larger studies even in men whose other parameters would warrant watchful waiting. And this may lead to other, more common genetic markers for aggressive (or indolent) disease.