

RESEARCH HIGHLIGHTS

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Risky Surgery Not Always Necessary to Treat Cervical Disease

Treatment options for human papillomavirus- (HPV-) associated diseases are expanding beyond surgical interventions. A press release from the March 16, 2005, issue of the *International Journal of Gynecological Cancer* discussed some of the most recent advanced treatments.

Today's standard treatment for HPV is to surgically remove the infected tissue. As with any surgery, patients are at increased risk for infection, but they also have an increased risk of reproductive difficulties in the future. In addition, this treatment does not guarantee complete removal of all infected tissue.

The new treatments discussed are chemoprevention and vaccines. The report mentions that these newer options present possible cures while being noninvasive, thus diminishing the risks posed by surgery. According to the article, chemoprevention is described as the use of micronutrients or drugs to delay or prevent HPV-infected tissue from developing into cancerous tissue. This treatment can be monitored by colposcopy, which is a fairly noninvasive treatment that allows physicians to access the cervix.

The two vaccines that have been used are a prophylactic vaccine focusing on the human immune response and a therapeutic vaccine used to stimulate immune responses in previously infected cells. Researchers will continue to study these methods and others to further expand treatment options for this disease beyond surgery.

HPV is a common virus that affects millions of women. HPV is the precursor to genital warts, which can advance to cervical cancer if left untreated. Recent statistics reveal approximately 20 million people in the United States are infected at any given time.

Bell, M.C., & Alvarez, R.D. (2005). Chemoprevention and vaccines: A review of the nonsurgical options for the treatment of cervical dysplasia. *International Journal of Gynecological Cancer*, 15, 4–12.

New Drug Shows Promise for Pain Relief

In the January 25, 2005, issue of *Oncology Times*, an exciting new method of analgesia was highlighted. The new drug, Prialt™ (ziconotide intrathecal infusion, Elan Pharmaceuticals, Boston, MA) was approved by

the U.S. Food and Drug Administration in December 2004.

Prialt is a snail-derived, nonopioid analgesic that can be effective for patients with severe chronic pain. The author acknowledged that Prialt arrived at an ideal time for potential patients. The drug has many benefits; one of the most important is that it is nonaddictive. Also significant to the timing of the drug's introduction is that the output of effective new drugs is on the downside, and drugs such as Vioxx® (Pfizer Inc., New York, NY) have been withdrawn from the U.S. market.

Prialt was available at the end of January 2005. This drug is a synthetic version of venom found in the marine snail *Conus magus*. Elan Pharmaceuticals reported that the drug's method of action targets and blocks N-type calcium channels on nerve cells. The particular cells will transmit pain signals when left unblocked.

The study encompassed three phase III clinical trials that tested the drug in more than 1,200 patients. The results reported by researchers lead the scientific community to believe that this newly developed drug is a promising treatment option for certain patient populations. Scientists also believe that the environment holds many more biologic resources, specifically marine species, awaiting discovery and exploration.

Eastman, P. (2005). New snail-derived intrathecal painkiller gets FDA approval. *Oncology Times*, 27(2), 13.

Study Finds Ways to Improve Bloodstream Infection Rates

Healthcare workers know that sterile techniques should be used when inserting and accessing IV catheters. Despite this knowledge, many patients die each year from complications of catheter-related bloodstream infections.

A systematic new method for decreasing the rates of infection was reviewed in the January 25, 2005, issue of *Oncology Times*. A study at Johns Hopkins Hospital and Health System demonstrated significant improvement in infection rates and saved millions of dollars in additional healthcare costs associated with bloodstream infections during the four-year study.

From 1998–2002, adult patients admitted to two intensive care units (ICUs) were used as the study population. One ICU served as

the control unit where standard treatment was received, whereas the other ICU was the experimental unit. Treatment in this experimental unit consisted of a series of interventions. Some of the interventions used are (a) educating ICU staff, (b) creating a catheter insertion cart with all necessary equipment, and (c) asking nursing staff daily about the necessity of retaining catheters. Nurses also completed a checklist during insertion and were given the authority to stop the procedure if technique was broken.

Results showed a decrease from 11.3 infections per 1,000 catheter days at the beginning of the study to 0 infections per 1,000 catheter days at the end of the study. Other ICUs have implemented the process and have yielded similar results.

Berenholtz, S. (2005). Simple intervention nearly eliminates catheter-related bloodstream infections. *Oncology Times*, 27(2), 19.

Hyperglycemia and Obesity Are Related to Cancer Risk

A recent prospective cohort study confirmed that obesity and hyperglycemia are related to an increased risk of cancer, specifically pancreatic cancer. The past several decades have demonstrated an increase in the prevalence of diabetes mellitus. Researchers in Korea completed a study that included 1.3 million government employees, teachers, and their dependents. Korea has a low rate of obesity. The average body mass index in this study was 23.2, with 25% of the population considered overweight. In contrast, 65% of U.S. men and women are overweight or obese. Approximately 8% of the U.S. population has diabetes, with more than 90% of cases classified as type II.

Results indicate that elevated fasting serum glucose levels are associated with a 27% increase in cancer mortality among men and a 31% increase among women. The strongest relative risk was associated with pancreatic cancer. A dose-response trend was evident, with higher fasting glucose levels associated with higher cancer mortality. Cancer incidence rates followed similar patterns.

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Because diabetes is an increasing public health concern in modern societies, cancer risks now are being recognized. Strategies that address obesity and hyperglycemia may have an impact on cancer prevalence.

Cooney, K.A., & Gruber, S.B. (2005). Hyperglycemia, obesity, and cancer risks on the horizon. *JAMA*, 293, 235–236.

Diet May Not Affect Cancer

Diet and cancer have been linked since the early 1980s. Initially, high total fat consumption was associated with higher rates of breast, colon, prostate, and several other cancers. Prospective studies have found little relationship between total fat intake and risk of breast and

colon cancer. During the 1990s, enthusiasm increased for fruit and vegetable consumption with the national “5 a Day” program. However, two large cohort studies found no relation between total fruit and vegetable consumption and overall cancer incidence.

Research is limited because recall of diet might be biased by the diagnosis of cancer. Participation rates are often only 50%–60%. Individuals who participate are more likely to be health conscious. Also, studies are limited by lack of data on diet during childhood.

Although recent findings on fruit and vegetable consumption’s effect on cancer may be disappointing, reductions in blood pressure and epidemiologic evidence for lower risks of cardiovascular disease provide sufficient reason to consume these foods in abundance.

Willett, W.C. (2005). Diet and cancer. *JAMA*, 293, 233–234.

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