Science Fiction Becomes Reality As Deadly Bacteria Battles Cancer

In the United States alone, approximately three-and-a-half million women have abnormal Pap smear tests each year. More than a third of these women develop cervical dysplasia, also known as Cervical Intraepithelial Neoplasia (CIN), a condition caused by the sexually transmitted Human Papilloma Virus (HPV). Stages I & II are considered a precancerous abnormality, but not an actual cancer; stage III is a pre-invasive form of cervical cancer.

"Late-stage CIN is a treatable disease, but the current standard treatment is an invasive surgical procedure," says Dr. John Rothman of Advaxis Inc., referring to a procedure known as Loop Electrosurgical Excision Procedure, or LEEP, that involves the application of a local anesthetic and excision of the diseased part of the cervix. LEEP surgery usually includes the removal of healthy tissue surrounding the tumor in order to prevent reoccurrence.

Rothman and his team at Advaxis are working on a less invasive approach for the treatment of CIN. The team has developed an active immunotherapy drug that may selectively kill precancerous cells. The treatment, called Lovaxin C, is based on live bacterium Listeria monocytogenes, a bacteria that is frequently found in dairy products and on leafy greens.

"The Listeria bacterium is one of the strongest known simulators of a 'cellular' immune response, which is the type needed to attack cancer," explains Dr. Rothman. "By redirecting the body's response to Listeria toward specific tumor targets, we're making safe use of patients' naturally strong immunologic response to the bacteria."

In most people the body's immune response usually kills ingested Listeria bacterium without the person ever knowing they were infected. However, in immunocompromised people, surviving bacteria can be responsible for a rare but serious food-borne infection known as listeriosis. A recent safety study by the company performed in end stage metastatic cervical cancer patients confirmed, however, that intravenous administration of Lovaxin C were safe to administer in human patients, even if they were quite ill.

"It's incredibly exciting to think that we have just entered the age of safe live bacterial therapies," says Dr. Rothman. "Triggering the immune response we have evolved to a potentially deadly bacteria to fight cancer is like science fiction."

For more information on Advaxis and Lovaxin C, you can visit www.advaxis.com.

Source: Advaxis, Inc.