Researchers at the University of South Florida have developed a device for non-invasive drug delivery to treat ovarian cancer.

Ovarian cancer is the most deadly gynecologic malignancy in the United States with 22,000 women affected in 2007. Worldwide, an estimated 205,000 women are diagnosed with the disease annually. At diagnosis, cases are often advanced, which accounts for the frequent poor prognosis of those affected.

To combat this deadly disease, numerous treatment types and regimens have been tested. However, several of the therapies remain in clinical stages. Therapeutic treatments continue to present major challenges to researchers. Current dosage levels have been found to be insufficient and often lead to a resurgence of the disease. Increasing systemic dosage has been hypothesized as an effective treatment for the cancerous cells; however, this approach increases cell death of healthy somatic cells due to the increased toxicity of the treatment.

These statistics highlight the need of a surgical tool with the ability to deliver precise and effective dosage quantities when regionally concentrated through direct vaginal delivery. USF researchers have designed said device, which allows for accurate dosage delivery to identified cancerous cells anywhere in the peritoneal cavity. This device consists of three component parts: the chamber, drug tubing releaser and drug plunger. This technology not only has the potential to be used for the treatment of ovarian cancer, but may also treat other diseases of the peritoneal cavity.

ADVANTAGES:

- Protects normal cells from toxic exposure
- Delivers effective and safe drug dosage directly to target site
- Improves post treatment prognosis

Non-Invasive Device for Ovarian Cancer Treatment

Figure 1: Inserting Chamber and Drug Tubing Releaser

Figure 2: Inserting Chamber, Drug Tubing Releaser and Drug Plunger

This Non-Invasive Drug Delivery Device Consists of Three Component Parts

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