

June / July 2003  
Reading time five minutes

# Dialogue

News and information about Mayo Clinic in Scottsdale

## Robotic gall bladder surgery opens potential for other surgical fields

**CLINICAL TIP**  
Potential benefits of robotic surgery for the surgeon include the elimination of tremor in the surgeon's hand, improved dexterity, and ability to perform more complex procedures using minimally invasive techniques.

Surgeons at the Center for Minimally Invasive Surgery at Mayo Clinic Hospital in Phoenix have experienced excellent results with patients using a surgical robot for cholecystectomy (gall bladder removal) and gynecologic surgery.

Mayo Clinic Hospital is the first in Arizona to use the new FDA-approved ZEUS<sup>®</sup> Robotic Surgical System to perform robotic cholecystectomy.

Gall bladder removal is the first application at Mayo Clinic Hospital for the ZEUS machine. Between 10 and 18 percent of people in the United States may develop gallstones during their lifetime.

The device is also used for gynecologic surgery and has potential use for cancer surgery on many different organs in the near future. The Mayo Clinic surgeons also see



potential applications in the fields of general, urologic and cardiac surgery.

Robotic surgery addresses limitations of the human hand and provides flexibility, precision and less bruising than previous minimally invasive laparoscopic surgery technologies. ■

## Intraoperative Electron Radiation (IOERT) brings higher survival rates to advanced cancer patients

**CLINICAL TIP**  
A single dose of the Intraoperative Electron Radiation (IOERT) is equivalent to two to five weeks of daily external radiation therapy (10 to 25 daily radiation treatments)

Physicians at Mayo Clinic in Scottsdale are effectively using a new form of external radiation therapy to treat patients with locally advanced gastrointestinal (colorectal, pancreas, esophagus, stomach, biliary), gynecologic, renal, soft tissue sarcomas and breast cancers during surgery.

Mayo Clinic Hospital's mobile Intraoperative Electron Radiation (IOERT) treatment enables cancer patients to receive a concentrated beam of electron radiation directly to cancerous tumors while the tumors are exposed during surgery.

Mayo Clinic Hospital is one of only eight centers in the world, and the only one in the Southwest, with this technology. Also called the Mobetron, the new FDA-approved treatment can be moved into a patient's operating room at the time of surgery.

IOERT is used alone or in conjunction with a course of external radiation given prior to

surgery and surgical removal of as much of the tumor as possible. During the IOERT procedure, the surgeon can move healthy organs out of the radiation field to prevent damage which enables a stronger dose of electron radiation to be directed to the cancerous tumor. In patients with breast cancer, IOERT is given during the lumpectomy surgery allowing the patient to decrease the amount of radiation therapy she needs post-operatively.

Recent studies from Mayo Clinic in Rochester (Minn.), show that patients with locally advanced primary colorectal cancer who received IOERT as a component of their treatment had a 46 percent five-year survival rate compared to 24 percent in a control group without IOERT. The studies also found that patients with locally recurrent colorectal cancer who received IOERT had a 19 percent five-year survival rate compared to only seven percent of those who did not receive the treatment. ■

# Colostomy-sparing surgery, resulting in good continence, an option for rectal cancer patients at Mayo Clinic Hospital

## CLINICAL TIP

Combined use of chemotherapy and radiation treatment along with surgical techniques can spare patients with rectal cancer a colostomy and result in good continence.

Patients at Mayo Clinic in Scottsdale with colon and rectal tumors are evaluated for colostomy-sparing surgery. Approximately 125 colon and rectal cancer cases are seen by physicians at Mayo Clinic in Scottsdale each year. Of these, nearly 25 percent involve a colostomy-sparing procedure.

Coordinating the care of patients with rectal cancer is complex. A multidisciplinary approach to treatment, such as the practice at

Mayo Clinic, gives the patient access to the most comprehensive options available.

Pre-operative chemo and radiation therapy of rectal cancers that present near the anus can often shrink them to allow reconstructive surgery to be performed. Surgeons at Mayo Clinic Hospital are skilled in total mesorectal excision, autonomic nerve preservation and colonic pouch anal anastomosis. This operation is an excellent alternative to amputation of the rectum with permanent colostomy. ■

# Mayo Clinic Hospital performs Arizona's first domino transplant

## CLINICAL TIP

A domino transplant expands the pool of liver donors, giving two patients the benefit from one cadaveric liver.

Arizona's first "domino" transplant was completed at Mayo Clinic Hospital in January 2003, and promises to be a creative way to optimize the limited supply of available organs for transplantation. A domino transplant involves removal of a liver from one patient and its transplantation in a second patient. The first patient then receives a new liver from another source. In the case of Mayo Clinic's transplant, the liver was from a cadaveric donor. In some rare instances, a living donor can be used for the first procedure.

The domino procedure serves as one solution to the "Wait or Innovate" dilemma, in which two patients in need of a liver transplant are able benefit from one donated liver. Domino liver transplants are rare enough that the Familial Amyloidotic Polyneuropathy (FAP) World Transplant Register reported only 18 domino transplants in the United States in 2002.

The United Network for Organ Sharing (UNOS) reports that 80,800 candidates are on waiting lists for organs in the U.S., and every day, 16 people die waiting for an organ transplant. ■

## STUDY COMPARES USE OF ZD1839 (IRESSA) VERSUS NO FURTHER TREATMENT AFTER SURGERY FOR NON-SMALL CELL LUNG CANCER

Mayo Clinic in Scottsdale has a study available for patients with Stage IB, II and IIIA Non-Small Cell Lung Cancer. This study is a Phase III prospective randomized, double blind, placebo-controlled trial of epidermal growth factor receptor antagonist ZD1839 (IRESSA) in completely resected non-small cell lung cancer.

The goal of the study is to find out if it is better to get the drug ZD1839 (IRESSA) versus no further treatment after surgery for non-small cell lung cancer. To compare these options, half of the patients in the study will receive ZD1839 (IRESSA) and the other half will receive a placebo.

Currently, the standard medical practice is to provide no further treatment after surgery as

further treatment has not yet shown prolonged survival. Approximately 160 people from Mayo Clinic's three sites, including Mayo Clinic in Scottsdale, will be included in the study.

Resection of the non-small cell lung cancer needs to be done. The patient must be randomized within 16 weeks of surgical resection, and will receive either ZD1839 (IRESSA) or placebo for up to two years. All potential patients will need to have a CT scan of the chest 42 days prior to surgery, a physical exam, blood tests, and a chest x-ray.

If you have a prospective candidate, please call Lynn Dodd at Mayo Clinic in Scottsdale at 480-301-9875 for further details.

## New Protocol

Lung Cancer research study at Mayo Clinic seeking patients.

If you have a question about *Dialogue*, or know of a physician who would like to be added to the mailing list, please call 480-301-4222.