LAPAROSCOPIC SURGERY

With the advent of better instrumentation and imaging tools, surgeons are taking a laparoscopic approach to complex procedures traditionally performed with an open incision. This shift towards minimally invasive surgery has dramatically reduced hospital stays and postoperative complications, allowing patients to resume their normal activities much more rapidly. Laparoscopic surgical techniques, many of which were developed by UCSF surgeons, can be used to treat both cancerous and benign conditions.

Laparoscopic Adrenalectomy

Laparoscopic adrenalectomy is currently the procedure of choice for most adrenal diseases requiring surgical treatment, including pheochromocytomas, adrenal cortical tumors causing Cushing’s syndrome or primary hyperaldosteronism. This complex laparoscopic technique can also be used to remove large adrenal tumors that are discovered incidentally and some cancers with limited spread to the adrenal gland, according to Quan-Yang Duh, MD, section chief of Endocrine Surgery at UCSF, which is a referral center for this operation. Dr. Duh has performed more than 250 laparoscopic adrenalectomies—one of the largest series in the world—with excellent results. Good outcomes are the result of close collaboration between surgeons, endocrinologists and anesthesiologists experienced in the treatment of adrenal disease.

Patients who undergo the laparoscopic procedure have less pain from the surgical site than those recovering from the large incision required by open surgery. They are also able to eat and return to normal activity within days instead of weeks of their surgery. Most patients are discharged home after a one- or two-day hospital stay.

Minimally Invasive Parathyroidectomy

A minimally invasive surgical approach is also appropriate for up to two-thirds of patients with primary hyperparathyroidism. To be eligible, the patient must have a definitive finding of a single parathyroid adenoma by preoperative localization studies, usually ultrasonography and sestamibi scan. This is because the minimally invasive approach, which involves small incisions ranging from 1.5 to 3 cm, permits only limited exploration for additional parathyroid tumors.
Technical Innovations

The UCSF surgical team is responsible for technical advances that have affected how laparoscopic surgeries are performed in the wider surgical community. Drs. Duh and Way, for example, developed the most commonly used method for performing laparoscopic gastrectomies and sigmoidostomies. The team also developed the surgical methods for laparoscopic removal of giant liver cysts and was the first to report a large series of cases using the technique. UCSF has more experience than any institution in the world in the use of laparoscopic surgery for pancreatic pseudocysts. The approach uses a novel radially expanding trocar, now being marketed by industry as a safer alternative to conventional cutting trocars. UCSF surgeons also authored a series of articles on laparoscopic pancreatic injuries, showing that the occurrence of retroperitoneal vascular injuries can generally be avoided by following principles of safe insertion.

The Department of Surgery has also served as the clinical testing arm for the development of a laparoscopic robotic device (the da Vinci robot marketed by Intuitive Surgical). The UCSF Video-surgical Surgery Center has recently acquired two of the robots, one for training purposes in the operating rooms.

C O N S U L T A T I O N S  A N D  R E F E R R A L S

For more information, please contact Quan-Yang Duh, MD, Lawrenna W. Way, MD, or Marco Patti, MD, at 415/353-2167.

Videoscopic training program

The Department of Surgery offers an extensive training program for community surgeons through its Video-surgical Surgery Center. Since its inception in 1992, the UCSF program in videoscopic surgery has trained approximately 1,000 surgeons in the technical aspects of laparoscopic and thorascoscopic surgery. Formal training courses include lectures, videotapes, a complete syllabus and lengthy periods of supervised hands-on animal work. The UCSF training program is the most extensive of its type in the United States. Courses cover not only basic and advanced general surgery but also specialized urologic, pediatric, cardiac and hernia repair procedures. The UCSF program has served as a model for the ACS Committee on Emerging Surgical Technology and Education.

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BARIATRIC CENTER OFFERS LAPAROSCOPIC WEIGHT LOSS SURGERY

For carefully selected, highly motivated patients, weight loss surgery may offer a good treatment option for morbid obesity. The UCSF Bariatric Surgery Center combines the expert skills of gastrointestinal surgeon Marco Patti, MD, and gastroenterologist James Ostroff, MD, who serve as surgical and medical directors of the Center, respectively. The comprehensive, multidisciplinary program helps patients decide if surgery is the right option for them, and provides ongoing support for those who choose to take this step.

A Major Health Concern

The incidence of morbid obesity reached epidemic proportions in the United States in the last decade, rising from 12% in 1991 to 18% in 1998. A steady increase has been observed in both sexes, and across age groups, races, and educational levels, although the largest increases have occurred in 18- to 29 year-olds, those with college education, and those of Hispanic ethnicity. Defined as a body mass index (BMI) equal to or greater than 30 Kg/m², obesity is caused by a complex interplay of genetic, environmental and psychosocial factors.

Conditions associated with morbid obesity include pulmonary dysfunction, sleep apnea, diabetes mellitus, hypertension, venous stasis, degenerative joint disease and urinary incontinence. These conditions impair quality of life and contribute to increased mortality. Most morbidly obese patients repeatedly attempt diet and exercise regimens, only to regain their lost pounds at a discouragingly quick pace. The discovery of the ob/ob allele and its protein product leptin opened new doors for research into the pharmacological treatment of obesity, but as yet research has not been translated into clinical applications.

In 1991 the National Institutes of Health called for a complete history and physical evaluation are performed. All patients must be evaluated preoperatively by a cardiologist and a psychiatrist and undergo an abdomino-pelvic ultrasonic scan for gallbladder stones. Additional consultations may be arranged based on the patient’s history and physical findings. These supplemental evaluations can be performed by UCSF specialists or by physicians in the patient’s hometown. Test results are discussed with the consulting and referring physicians, and eligible patients are referred to Dr. Patti. Patients are also required to lose 10% of their initial body weight prior to surgery, a requirement that helps select patients for surgery, a requirement that helps select patients who have a full understanding of the rationale for the operation and the mechanism of weight loss.

The Operation

The UCSF program uses the Roux-en-Y gastric bypass, a gastric restriction procedure. A small gastric pouch is isolated from the rest of the stomach, and connected to a loop of jejunum through a small (1 cm) anastomosis. The gallbladder is also removed if stones are detected by the preoperative ultrasound. The operation can be performed laparoscopically in most patients. Very large patients (BMI>60) or those who have undergone previous operations require open surgery through a mid-line incision. Patients remain in the hospital for two to three days after a laparoscopic bypass, and three to five days after an open bypass, according to Dr. Patti. They are discharged with medications to control pain, reduce gastric acid secretion, and prevent the formation of gallstones.

WEIGHT LOSS SURGERY

Patients are seen in the office two and six weeks postoperatively. Appointments are then scheduled every three months during the first year, and every six months during the second and third year. Monthly support groups are held to bring together pre- and post-operative patients. A guest speaker is often present, ranging from a nutritionist who can discuss dietary questions to a plastic surgeon who can field questions about surgery to remove excess skin after major weight loss.

Excellent Results

Between December 1998 and April 2002, 170 patients underwent a Roux-en-Y gastric bypass at UCSF: 24 men and 146 women, whose mean age was 42 years (ranging from 21 to 66). The average preoperative BMI was 48 Kg/m² (ranging from 35 to 76). Seventy-three operations (43%) were performed through a laparotomy, and 97 operations (57%) laparoscopically (including most of those performed during the last 12 months). There was only one anastomotic leak (0.6%) and one death (0.6%), according to Dr. Patti.

Most patients tended to reach or closely approach their ideal body weight within 12 to 18 months, particularly those who exercised regularly. Preoperative comorbid conditions were strikingly reduced. Most patients, for example, were able to stop medications for diabetes or hypertension or sleep well and feel rested for the first time in years.

New Offices, Additional Staff

Given the program’s statistical success and the increasing number of patients interested in this procedure, UCSF is expanding support for the bariatric surgery program. The center will move to a new office suite at 350 Panama Avenue in early fall, one that will be equipped with furnishings such as chairs and examining tables that comfortably accommodate larger patients. Patients will be able to obtain all necessary consultations in this office. To ensure that qualified patients do not experience long waits to schedule their surgery, the department is recruiting two additional surgeons with expertise in minimally invasive bariatric surgery.

CONCLUSIONS AND REFERRALS

For more information, please call 415/353-2161.
Colorectal Cancer
Improved understanding of the pathophysiology of colorectal cancer has led to a number of advances in the treatment of this disease. Cancer staging has been improved with the use of endorectal ultrasound, an area in which Dr. Garcia-Aguilar has particular expertise. Ultrasound staging allows physicians to more accurately plan multimodal therapy with medical and radiation oncology. Surgeons are also now able to preserve sphincter function in many rectal cancer patients, thanks to an improved understanding of the standing of cancer pathology and advances in surgical techniques. Sphincter-saving operations in rectal cancer enable the patient to maintain normal bowel function and eliminate the need for a permanent colostomy. Treatment of patients with colorectal cancers is coordinated through the UCSF Mount Zion Clinical Cancer Center, which offers multidisciplinary expertise and the opportunity for selected patients to participate in clinical trials of innovative therapies.

Laparoscopic Surgery
Another faculty addition, Sonia Ramamoorthy, MD, recently completed a colon and rectal surgery fellowship at Washington University, St. Louis, where she obtained advanced training in laparoscopic surgery for colorectal diseases. Under her leadership, UCSF offers laparoscopic colectomy for benign polyps, diverticular disease, inflammatory bowel disease such as ulcerative colitis and Crohn’s disease; defecation disorders, including constipation, pelvic floor prolapse and fecal incontinence; and anorectal problems such as hemorrhoids, fissures, and complex fistulas.

Ulcereative Colitis
The development of the ileo-anal pull-through procedure has enabled ulcerative colitis patients to avoid a permanent ileostomy following resection of the colon and rectum. Instead, the rectum is replaced with a “J-pouch” made of small intestine to maintain intestinal continuity. This can be particularly beneficial to the quality of life of younger patients with a severe form of the disease. Treatment is coordinated with other members of the UCSF Center for Inflammatory Bowel Disease, which offers medical and surgical treatment options and psychosocial support for patients with both ulcerative colitis and Crohn’s disease.

COLON AND RECTAL SURGERY
The Section of Colorectal Surgery has recently expanded its staff and services to provide the highest quality treatment for colorectal diseases. Section Chief Julio Garcia-Aguilar, MD, PhD, a nationally recognized expert in the field of colon and rectal cancer who joined the faculty this year from the University of Minnesota, leads a collaborative approach to basic science research, clinical research and patient care. Section members include Madhulika G. Varma, MD, Sonia L. Ramamoorthy, MD, and Theodore R. Schrock, MD. Together they provide treatment for cancers of the small intestine, colon, rectum and anus; diverticular disease; inflammatory bowel disease such as ulcerative colitis and Crohn’s disease; defecation disorders, including constipation, pelvic floor prolapse and fecal incontinence; and anorectal problems such as hemorrhoids, fissures, and complex fistulas.

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The Center also provides a multidisciplinary approach to patients with complex pelvic floor disorders, which includes counseling, medical management, surgery and biofeedback. Ultrasound examination and measurements will also be available. Innovative surgical treatment options for fecal incontinence include radiofrequency ablation, artificial sphincters and sacral stimulation for those patients who have failed more conventional treatments. More effective surgical treatments have also been developed to treat severe constipation caused by rectal prolapse, rectocele and Hirschspring’s disease.

The Department of Surgery’s Center for the Study of Pelvic Floor Disorders, under the direction of Madhulika Varma, MD, is also expanding to accommodate the increasing number of patients with pelvic floor dysfunction through its anorectal physiology laboratory. “These tests are used in conjunction with clinical assessment to better evaluate and plan for treatment of incontinence, constipation and pelvic floor prolapse,” said Varma.

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CONSULTATIONS AND REFERRALS
For more information, please contact the Section of Colorectal Surgery at 415/353-2161 (clinical office) or 415/478-6105 (academic office).
HARRIS TO HEAD GENERAL SURGERY

Hobart Harris, MD, a physician-scientist with a special interest in the immune response in sepsis, has been named chief of the Division of General Surgery at UCSF. Harris has been a member of the surgery faculty since 1994, based at San Francisco General Hospital Medical Center.

Harris has particular clinical expertise in the surgical treatment of diseases of the pancreas, liver and biliary tree, and in the treatment of surgical infections and sepsis. His laboratory work is supported by an NIH grant to study the role of triglyceride-rich lipoproteins in the innate host response to endotoxins, such as those released by the Gram-negative bacteria that cause the most deadly form of sepsis.

After receiving his degree from Harvard Medical School, Harris completed a UCSF general surgery residency and a fellowship in hepatobiliary surgery at the University of Hong Kong, Queen Mary Hospital. His many awards include a Robert Wood Johnson Minority Medical Faculty Development Program Fellowship, an America College of Surgeons Faculty Fellowship, and the Royal College of Surgeons Traveling Fellowship.

CONSULTATIONS AND REFERRALS

Dr. Harris can be reached at 415/514-3891.

HONORS AND AWARDS

Nigel W. Bunnett, PhD
Awarded the Viktor Mutt Medal at the 14th International Symposium on Regulatory Peptides

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