Pancreatic cancer is the fourth-leading cause of cancer-related death in the United States. Recently identified premalignant cysts arising in the pancreas have raised many questions regarding the best methods to screen for cancer. To provide comprehensive care for patients with this complex disease, UCSF recently established the Pancreas Center, which combines the expertise of surgeons, medical oncologists, gastroenterologists, pain specialists and dietitians, with care coordination by nurses.

“One thing we’ve learned is that pancreatic tumors are heterogeneous,” said Professor of Surgery Kimberly Kirkwood, MD. “Using a combination of specialized tests, we try to determine the biological aggressiveness of the particular pancreatic tumor we are looking at, so that we can be much more effective in tailoring the treatment to suit the disease.”

Using advanced diagnostic techniques such as multidetector CT scans, MRI and endoscopic ultrasound, gastrointestinal radiologists at UCSF are able to find pancreatic tumors at an earlier stage. These sophisticated studies provide a more accurate prediction of whether a tumor is benign, premalignant or malignant, and whether it can be safely and completely removed.

Most benign tumors and up to 20 percent of invasive cancers are resectable. Yet according to several recent studies, only about one-third of patients with potentially resectable pancreatic tumors undergo surgery. These studies also found that patients were less likely to receive surgery at low-volume and community centers.

Pancreatic tumors are relatively rare, so most surgeons in the community have the opportunity to perform only one or two pancreas resections per year, and
LETTER FROM THE CHAIR

This issue of Inside Surgery outlines some of the latest developments at UCSF’s Department of Surgery. The Pancreas Center provides a coordinated, interdisciplinary approach to patients with complex disease. In addition to world-class surgeons, the Pancreas Center draws on the expertise of radiologists, gastroenterologists, medical and radiation oncologists, and other specialists to provide state-of-the-art care to patients.

Similarly, the Thoracic Oncology Program is a world leader in innovative research and clinical care for patients with lung cancer. Led by David Jablons, MD, the program is especially skilled in achieving local control of lung cancer. The team of outstanding surgeons, medical and radiation oncologists, interventional radiologists, and others can often perform complete resections in patients referred from other centers who had been told their tumors were inoperable.

This year, we are celebrating the 45th anniversary of the UCSF Transplant Service, led by John Roberts, MD. We have one of the largest and most highly regarded transplant programs in the country, and we are an international leader in the field. Our living donor program employs the latest innovations and a team approach to patient care, resulting in superior outcomes even as we treat some of the highest-risk patients.

These advances illustrate just a few ways that UCSF’s Department of Surgery provides the most comprehensive treatments available. We are pleased to share these updates with you.

Sincerely,

Nancy L. Ascher, MD, PhD
Professor and Chair, Department of Surgery
therefore may not have the breadth and depth of experience required to advise patients about evolving treatment options. “At National Cancer Institute-designated hospitals like UCSF, patients have lower complication rates, lower mortality rates and shorter lengths of stay,” said Kirkwood. For example, at UCSF, the perioperative mortality rate for patients 75 years and older who undergo the Whipple procedure (removal of the head of the pancreas, gallbladder and other affected organs) is 3 percent, compared with the statewide average of 10 percent.

Interestingly, long-term survival following resection is also improved at high-volume, National Cancer Institute-designated hospitals such as UCSF. Recent data show that five-year survival following resection of localized pancreatic cancer at UCSF is 41 percent, which compares quite favorably with 20 percent nationally, as reported in the SEER database for patients with a similar stage of disease. Factors such as intensivists’ presence in the ICU, systems of care, use of adjuvant therapy and better patient selection may all play a role in improved outcomes.

Surgeons at the Pancreas Center offer a full range of options, from open procedures to laparoscopic surgery. Vascular surgeons can perform segmental vein replacement, using the latest tissue coagulation and sealing techniques to ensure that patients remain hemodynamically stable, and enabling resection of tumors that were previously inoperable. Surgeons also partner with medical oncologists, who are designing protocols to use biomarker profiling of tumors from individual patients to offer “personalized” chemotherapy. In some cases, UCSF surgeons and community physicians can work together to administer a type of chemotherapy in the patient’s own home. UCSF surgeons also work collaboratively with community physicians in developing customized treatment plans to help ensure seamless long-term care for patients.

Specialized Expertise

UCSF also has experts in neuroendocrine tumors, slow-growing tumors that may produce hormones. “These unregulated amounts of hormones not only cause the tumor to grow, but can cause terrible symptoms such as diarrhea, flushing and other problems,” said Assistant Professor of Surgery Eric Nakakura, MD, PhD, a cancer surgeon who specializes in tumors of the pancreas, bile ducts, liver and gastrointestinal tract.

For example, some types of neuroendocrine tumors can make an overabundance of insulin, resulting in dangerously low blood sugar that requires the patient to eat constantly to avoid passing out. Nakakura and his medical oncology colleagues have identified a new genetic marker that will help diagnose patients with neuroendocrine tumors. They have also identified key signaling pathways that regulate tumor growth and hormone production. Together, they are also aggressively pursuing more effective treatments.

“We want to diagnose people earlier, when treatment is more successful, as well as help patients with advanced disease live longer,” said Nakakura. “We want to advance the standard of care.”

The Pancreas Center can greatly improve quality of life for all patients with pancreatic cancer. For those unable to eat because their tumor is pushing against the stomach, surgeons can perform a minimally invasive bypass surgery that reroutes the path of food from the stomach to the intestine.

Almost all pancreatic cancer patients are malnourished because their tumors produce cytokines that cause the breakdown of muscle mass. Dietitians help patients maximize their nutritional intake. Pain specialists help them manage physical discomfort through a combination of narcotic and nonnarcotic

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medications, as well as Eastern medicine approaches, acupressure, massage and other treatments. Radiofrequency ablation or surgical removal of nerves that supply the pancreas can also relieve pain caused by tumors or chronic pancreatitis.

In addition, the Pancreas Center provides advanced genetic screening for patients and family members who may have an elevated risk of developing cancer.

“The Division of General Surgery at UCSF has a long tradition of providing outstanding clinical care to patients suffering from diseases of the pancreas,” said Hobart W. Harris, MD, MPH, J. Englebert Dunphy Endowed Chair in Surgery and chief of the Division of General Surgery. “Establishing the Pancreas Center represents a natural evolution of our commitment to patient-centered, innovative and compassionate care for patients with complex conditions.”

“Given the complexity of pancreatic cancer surgery and the many alternative therapies that are available, trying to help patients, their families and their primary care physicians design an individualized treatment plan involves a model of complex decisionmaking that I enjoy,” said Kirkwood. “This is a completely new era for pancreatic cancer.”

CONSULTATIONS AND REFERRALS

For more information, contact Dr. Kirkwood at (415) 353-2161 or Kim.Kirkwood@ucsfmedctr.org and Dr. Nakakura at (415) 353-9846 or Eric.Nakakura@ucsfmedctr.org.

THORACIC ONCOLOGY PROGRAM

Lung cancer is the leading cause of cancer death worldwide. UCSF’s Thoracic Oncology Program is at the forefront of treating patients with early-through advanced-stage lung cancer, mesothelioma, esophageal cancer, sarcoma and other forms of lung cancer, and is also a leader in clinical and translational research.

“We are patient advocates in the operating room, the clinic and the tumor board,” said David Jablons, MD, chief of the section of General Thoracic Surgery and leader of the Thoracic Oncology Program.

“Many patients who have been referred to us have technically challenging tumors which they have been told cannot be resected because they are too frail, or the tumor is too big or invasive,” said Jablons. “With our surgical skills, combined with the expertise of our medical oncologists, radiation oncologists, interventional radiologists and others all working together, we can often do a complete resection that leads to a cure in patients who otherwise would be relegated to recurrent disease and poor outcomes.”

The Thoracic Oncology Program is a high-volume center performing nearly 600 operations annually. Its perioperative mortality rate is less than 1 percent, even though the program treats some of the most acutely ill patients. The program is particularly skilled in achieving local control of lung cancer, which is made possible by innovative, combined modality treatments tailored to each patient.

For example, a patient may receive preoperative induction chemotherapy or chemoradiation therapy to shrink the tumor prior to resection. Through translational research, surgeons are discovering targeted, molecularly guided approaches made possible by histological analysis. UCSF has developed an early-stage prognostic gene analytical...
method that predicts outcomes for stage 1 lung cancer patients, which could help determine the most effective treatments for a patient with a particular type of lung cancer.

UCSF surgeons are also leaders in minimally invasive techniques, including minimally invasive thoracotomy and thoracoscopy as well as esophageal surgeries. These procedures have a low perioperative mortality rate and shorter hospital stays for the patient.

The Thoracic Oncology Program also has a robust clinical research program. It currently has seven open clinical trials, and is testing state-of-the-art therapeutics for patients with esophageal cancer, mesothelioma, non-small cell lung cancer, small cell lung cancer and solid tumors. The program has a history of pioneering successful new drugs, including Avastin and Alimta, which are now the dominant, front-line drugs for advanced-stage lung cancer.

**Worldwide Leaders**

To bring the latest therapies to patients who would otherwise not have access to them, the UCSF Thoracic Oncology Program established the Institute for Thoracic Surgery and Thoracic Oncology. This institute partners with Sequoia Hospital in Redwood City to enroll patients in clinical trials, and is about to expand to other hospitals in San Francisco and the South Bay. UCSF surgeons also treat veterans at the San Francisco Veterans Affairs Medical Center, providing them with the most advanced standard of care.

Building on 15 years of collaborative work with leading scientists in China, the institute also launched the China Clinical Trials Consortium. This consortium will offer potentially lifesaving therapeutics to thousands of patients in Beijing, Shanghai and Guangzhou.

In the next two decades, China is predicted to experience an epidemic of lung cancer and mesothelioma as a result of widespread smoking, increasing industrial pollution, unregulated asbestos control and apparent genetic susceptibilities. Results from these clinical trials will help accelerate the pace of clinical research, while helping patients who would otherwise face poor outcomes.

This summer, the Thoracic Oncology Program co-hosted the International Association for the Study of Lung Cancer’s 13th World Conference on Lung Cancer, with Jablons as conference co-chair. Nearly 7,000 health care professionals dedicated to lung cancer attended. In addition to co-hosting this definitive lung cancer meeting, the Thoracic Oncology Program has also established and co-chaired many conferences, including the International Lung Pan Pacific Cancer Conference, the UCSF/UC Davis Thoracic Oncology Conference, the UCSF Clinical Cancer Update and Summit 2007.

“There’s one common theme for everything we do, and that’s excellence,” said Jablons. “From our medical oncology group to our interventional radiology group and our thoracic surgical interventions, we have the best outcomes and the most state-of-the-art treatments. What we do daily is all for the benefit of our patients, and our goal is to do it extremely well.”

**CONSULTATIONS AND REFERRALS**

For more information, call (415) 885-3882 or email David.Jablons@ucsfmedctr.org.
In California alone, there are more than 16,000 patients waiting for kidney transplants, and more than 3,000 patients awaiting liver transplants, according to the Organ Procurement and Transplantation Network. UCSF has been at the forefront of helping more patients receive transplanted organs through innovations such as split liver transplantation, in which a single cadaveric liver is divided and transplanted into two patients.

Another major initiative is UCSF’s living donor program, which offers hope to many patients who might die before an organ becomes available. UCSF offers state-of-the-art procedures, expert care and among the best outcomes nationally for living organ donors and transplant patients.

UCSF is an international leader in the field of transplantation, and has one of the largest and most highly regarded transplant programs in the country. UCSF has performed more than 10,000 transplants, and this year is celebrating the 45th anniversary of its transplant service. In addition to a cadre of expert surgeons, UCSF has an outstanding team of nurses, social workers and others who specialize in the care of transplant patients.

“It’s a whole team effort to get patients through the operation and take care of them afterwards,” said Professor of Surgery John Roberts, MD, chief of the UCSF Transplant Service.

About 10 percent of the 140 liver transplants that UCSF performs each year involve living donors, according to Roberts. UCSF performed its first adult-to-child living donor liver transplant in 1993, and has done 80 such procedures to date. UCSF performed its first adult-to-adult procedure in 2000, and has done more than 100 such procedures to date.

UCSF radiologists use CT angiograms and CT cholangiograms to precisely map blood vessels and bile ducts prior to surgery, helping to accurately determine how to divide the donor’s liver while minimizing adverse impact on the donor.

Depending on the relative sizes of the donor and recipient, surgeons remove 25 percent to 60 percent of the living donor’s liver. About 80 percent of the donor’s liver regenerates within several weeks or months, while the last 20 percent can take up to a year to regenerate. Donors are usually off work for about six weeks.

The depth and breadth of the UCSF Transplant Service’s experience translate into superior outcomes. For example, UCSF adult liver transplant patients receiving organs from living donors have a one-year patient survival rate of 95.8 percent, compared with the national average of 89.3 percent, and a one-year graft survival rate of 95.8 percent, compared with the national average of 84.3 percent.

Living Donor Kidney Transplants
UCSF Medical Center has performed more kidney transplants than any other institution in the world – more than 8,000 since 1964 – and is the second-largest center for living donor kidney transplants in the country.

Most healthy adults can safely donate a kidney, and long-term outcomes for graft survival are significantly better for kidneys from living donors than from deceased donors. The average survival rate of a transplanted kidney from a living donor is 20 years, compared with 12 years for a kidney from a deceased donor.

“You’re looking at perhaps only having to transplant a patient once, versus transplanting them with a deceased donor and having the graft fail after 10 years, and then they are back on the wait list again,” said Professor of Surgery Chris Freise, MD, a member of the UCSF Transplant Service.

Since 1999, UCSF has performed nearly 1,000 laparoscopic donor nephrectomies.
to remove living donor kidneys. This minimally invasive procedure usually requires a hospital stay of only two to three days, and donors can usually return to work in three to four weeks.

UCSF also has several new programs to increase the number of living donor kidney transplants, including:

■ Incompatible blood type and positive cross-match programs. Plasmapheresis can lower antibody levels of recipients who have incompatible blood types or positive cross-matches with their donors, thereby enabling them to receive a donated kidney from an otherwise incompatible living donor. Success rates are close to those for transplants from compatible living donors, and are better than the success rates for deceased donor transplants.

■ Paired exchange program. Matching two or more living donor-recipient pairs can allow compatible matches across pairs (e.g., from donor A to recipient B, and from donor B to recipient A).

■ Altruistic donor program. This program allows living donors without a specific recipient in mind to donate a kidney.

■ “Refurbished” kidney program. Some urology patients may choose to have a defective kidney removed, rather than risk complications associated with repair that may require another surgery. These patients may donate their kidney, which transplant surgeons repair and then transplant into a recipient.

CONSULTATIONS AND REFERRALS

For more information or to refer a patient, call (415) 353-1888 for liver transplants and (415) 353-1551 for kidney transplants.

LIVING DONOR TRANSPLANT: A CASE STUDY

Karen Shatka, 47, was diagnosed with polycystic kidney disease when she was 25. For many years she had no symptoms, but in her early 40s, blood tests showed decreased kidney function. Her nephrologist said she would need a transplant within a few years.

“It was a total shock,” said Shatka. Married with three sons, Shatka was still working 12-hour days as a nurse. As the months went on, however, she began to feel increasingly exhausted.

Shatka, who lives near Fresno, chose UCSF for her transplant surgery. Eleven family members and friends offered to donate a kidney. The first three candidates were incompatible, but her stepsister, Ellen Monsalve, was a good match. “I am so blessed to be a living donor for Karen,” said Monsalve. “I’d do anything for her.”

Shatka, though, had elevated antibody levels, likely due to her pregnancies. To reduce her antibodies, UCSF arranged for a home health nurse to intravenously administer rituximab, and coordinated with her community hospital to perform plasmapheresis and administer intravenous immune globulin (IVIG).

The transplant surgery went well, but several days after discharge, she demonstrated signs of B-cell rejection. Shatka was readmitted to UCSF and underwent additional plasmapheresis and IVIG treatments, which successfully halted the rejection process.

“Everybody was fantastic, from the nursing staff to the residents and transplant team,” said Shatka. “They were caring and did everything perfectly. Everybody becomes like a family to you.”

Two years later, Shatka works full time and enjoys biking, walking and aerobics. She is also training for a half-marathon in November. Shatka returns to the UCSF transplant clinic every six months, and the transplant team keeps in close contact with her nephrologist at home.

“I’m so thankful to have my life back again,” said Shatka.
The UCSF Transfer Center is staffed 24/7 by a specialized team to evaluate the clinical needs of your patient to ensure the most appropriate medical care is provided and to coordinate transfer and transport from hospitals throughout the region. This centralized service provides quick access to our physicians and team members, including nurses, financial counselors, case managers and social workers. At discharge, the Transfer Center can facilitate the return transfer.