Baylor Offers Advanced Imaging to Measure and Stage Liver Disease
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Complex Whipple Procedure Most Successful in High-Volume Centers
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Islet Cell Transplantation Research: An Update
In 2011, scientists in the Pancreatic Islet Cell Transplant Program, a joint project of Baylor University Medical Center at Dallas, Baylor All Saints Medical Center at Fort Worth and Baylor Research Institute, collectively received three innovative grants from the Juvenile Diabetes Research Foundation.

Baylor Now Offers LVAD Evaluation in Fort Worth
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Baylor Offers Advanced Imaging to Measure and Stage Liver Disease

An advanced imaging modality is allowing physicians on the medical staff at Baylor University Medical Center at Dallas to measure the progression of a patient’s chronic liver disease, as well as stage the extent of fibrosis. Ultrasound- or MR-based hepatic elastography shakes the liver by sending shear waves through it. The stiffer the liver, the more scar tissue is present.

“Because of new therapies for hepatitis C, patients are living longer with chronic liver disease,” said James Trotter, MD, medical director of liver transplantation at Baylor University Medical Center at Dallas. “Elastography enables us to differentiate the stages of chronic liver disease and determine whether patients are getting better or worse. This also enables us to determine the efficacy of the therapies we are using and how to improve them.”

The equipment to produce elastograms was made possible by the $1 million gift made by the Jim and Angela Thompson Foundation to create a diagnostic liver laboratory at Baylor Dallas. Baylor Dallas is one of the few medical centers in the nation to offer this advanced imaging technology.

In contrast to a liver biopsy, which is invasive and has the potential for complications, elastography—although not as detailed—is non-invasive.

“Elastography is complementary to liver biopsy,” Dr. Trotter said. “It won’t eliminate the need for biopsy completely, but it can help us select the patients who should undergo a biopsy. Instead of every five years, a patient may need a liver biopsy every 10 years.

“For example, a patient whose cirrhosis is generally stable can go through these tests, and we can obtain a measurement of any disease progression related to stiffness of the liver. And we can repeat the tests to determine if the patient’s condition is improving or deteriorating. Or if a patient is borderline for being treated for hepatitis C, the results of the elastogram may help us decide that treatment is needed. Similarly, if a patient is being treated for the virus, the test can show us how well the treatment is working.”

Quick Facts

• More than 25 years ago, Baylor pioneered the first liver transplant program in the Southwest.
• One of three programs in the nation to perform more than 3,500 liver transplants.*
• Baylor’s expertise in the areas of hepatitis B and C is internationally renowned.

*Volumes are based on liver transplants at Baylor University Medical Center and Baylor All Saints Medical Center.

Left: The shear waves shown propagating through the liver help to determine the elasticity of the organ.
Right: The elasticity of the liver can be determined a quantitative analysis of the shear waves.
Kidney Transplant Outreach Offered in Lubbock

A weekly Kidney Transplant Outreach Clinic has been established in Lubbock to offer post-transplant care. Starting in July 2012, we will begin offering pre-transplant evaluations to patients in the area. This outreach clinic is an initiative of HealthTexas Provider Network.

“Close to one million people live in Lubbock, Amarillo, Midland-Odessa and the surrounding communities. There is a large patient population in this area and a great need for transplant care,” said Bernard Fischbach, MD, a member of HealthTexas and a physician on the medical staff at Baylor All Saints Medical Center at Fort Worth. “Many patients believe they do not qualify for a kidney transplant, when, in fact, they are eligible. For many patients, it’s not feasible for them to routinely travel to the Dallas/Fort Worth area. Therefore, we identified the need to establish a transplant outreach clinic in Lubbock.”

When a patient receives a kidney transplant at Baylor University Medical Center at Dallas or Baylor Fort Worth, the goal is to get the patient home within a two- to three-week timeframe. Once discharged home, Dr. Fischbach is able to follow the patient closely in the Lubbock transplant outreach clinic. Dr. Fischbach and a transplant coordinator are available at the Lubbock clinic every Thursday.

Dr. Fischbach said he and the HealthTexas team are in close communication with local nephrologists who refer patients to Baylor Annette C. and Harold C. Simmons Regional Transplant Institute. These referring physicians are routinely kept apprised of their patients’ clinical status, receiving copies of clinic notes and other pertinent information.

“Lubbock has been the site for expanded access to advanced care for patients with liver disease and advanced heart failure,” Dr. Fischbach said. “We’re very pleased to offer this same type of access to patients who are potential kidney transplant recipients or for those who have already received a kidney transplant.”

Quick Facts

- With more than 3,100 kidney transplants performed, our kidney and kidney/pancreas program is one of the largest in Texas.
- According to the United Network for Organ Sharing (UNOS), survival rates for Baylor kidney recipients exceed the national and state averages.

*Volumes are based on kidney transplants at Baylor University Medical Center and Baylor All Saints Medical Center.*
Complex Whipple Procedure Most Successful in High-Volume Centers

At Baylor, patients with malignancies within the head of the pancreas may undergo a pancreaticoduodenectomy, commonly referred to as the Whipple procedure. Currently, the Whipple procedure is the only potential curative operation for cancer in the head of the pancreas.

The Whipple procedure also may be used in patients with bile duct cancer, duodenal cancers, benign tumors causing symptoms, premalignant lesions like pancreatic cysts, and other cancers that have metastasized to the pancreas, such as renal cell cancers.

In this complex procedure, the head of the pancreas, first portion of the small intestine, gallbladder, a portion of the bile duct and sometimes a small portion of the stomach are removed, with the goal of removing all of the tumor. After resection, the gastrointestinal tract is reconstructed.

“This is a technically demanding procedure, and the best results are achieved by those surgeons and surgical teams who perform a high volume of the surgeries,” said Scott Celinski, MD, a surgeon on the medical staff of Baylor University Medical Center at Dallas, who is fellowship-trained in surgical oncology and hepatobiliary surgery.

“We’re working in a part of the body with incredibly complex anatomy with large blood vessels that are adherent to surrounding structures,” he said. “It requires a surgical connection between the intestine and remaining pancreas, and this connection is prone to leaking. The pancreas sits right on top of the blood vessels that supply the intestines, so surgeons have to be careful not to damage them.”

Dr. Celinski said that the surgical technique of the Whipple procedure has not changed appreciably over the years. What has been learned is that the technique should be performed at medical centers like Baylor where there is a significant volume. The complication rate for the procedure can be high, but is generally lower at high-volume centers.

Surgeons on the Baylor medical staff also employ a technique for treating locally advanced pancreatic cancers when the portal vein is involved, tumors once considered unresectable.

“We are able to resect the portal vein in appropriate cases with reasonably good outcomes,” Dr. Celinski said. “This procedure is not available in all of the centers where the Whipple is performed.”

Quick Facts

- First facility in the Southwest to be approved by the American Society of Transplant Surgeons as a surgical training program in pancreas transplantation.
- Pancreas patient survival rates at Baylor University Medical Center and Baylor All Saints Medical Center exceeded the national average for one-year survival.
- The program* has performed 220 pancreas transplants.

*Volumes are based on pancreas transplants at Baylor University Medical Center and Baylor All Saints Medical Center.
In 2011, scientists in the Pancreatic Islet Cell Transplant Program, a joint project of Baylor University Medical Center at Dallas, Baylor All Saints Medical Center at Fort Worth and Baylor Research Institute, collectively received three innovative grants from the Juvenile Diabetes Research Foundation.

The first grant is focused on evaluation of the efficacy of Withaferin A (WA), a plant-derived compound with strong anti-inflammatory and anti-oxidant properties, in improving islet survival and function. “The overall aim of this study is to determine if WA can minimize the loss of islets during islet culture and also improve current islet cell transplant outcome,” said Bashoo Naziruddin, PhD, director of the Islet Cell Laboratory at Baylor Dallas and principal investigator of the study. “Our preliminary studies have shown that WA can effectively inhibit induction of inflammatory cytokines, as well as chemokines, in human islets. We hope the use of WA will strengthen existing immunosuppressive strategies to improve current islet transplant outcomes by pre-serving the mass and function of engrafted islets.”

The second grant is for studying beta cell (the cells responsible for production of insulin hormone) regeneration in mice using a technique called ultrasound-targeted microbubble destruction technology (UTMD). This technology has been used extensively by Baylor researchers to deliver genes specifically to target organs and is considered relatively safe.

The third grant is to identify a novel biomarker for islet damage. Researchers at Baylor Dallas and Baylor Fort Worth are studying the role of a biomarker called HMGB1 (high-mobility group box 1 protein) in islet cell graft function. The research team found that mouse islets contain high levels of HMGB1, and during pro-inflammatory cytokine-induced damage, islets release HMGB1 outside the cell, which is involved in early islet loss. This study hypothesizes that low temperature conditions could prevent both hypoxia-induced islet cell damage and HMGB1 release from islets in a mouse model. Two manuscripts authored by the Baylor research team on this topic were accepted for publication in the journal *Cell Transplantation*. In addition, researchers received a grant from the National Institutes of Health for further study of the topic.

At the 2011 International Pancreas and Islet Transplant Association (IPITA) meeting in Prague, Czech Republic, a team of transplant surgeons and research scientists from Baylor Dallas and Baylor Fort Worth shared their work with more than 420 physicians and scientists from around the world.

“Progress made during the past five years has positioned Baylor as a well-recognized clinical and research center in the field of islet cell transplantation,” Dr. Naziruddin said.
Baylor Now Offers LVAD Evaluation in Fort Worth

Though transplants offer hope for approximately 2,000 advanced heart failure patients each year, more than 250,000 patients have no viable treatment option and are at high risk for repeat hospitalizations, severely diminished quality of life and limited life expectancy. Between 50,000 and 100,000 patients in the United States do not qualify for a transplant due to age or other medical problems.

Advances in left ventricular assist device (LVAD) utilization and FDA approval of a continuous axial flow pump are enabling physicians on the medical staff of Baylor University Medical Center at Dallas to provide greater use of technology to help patients with end-stage heart failure. Physicians in the LVAD program at Baylor Dallas, a collaboration with the University of Texas Southwestern Medical Center, also have used an LVAD to help patients recover from post-partum cardiomyopathy.

To expand access to advanced care for patients with end-stage heart failure, Baylor All Saints Medical Center at Fort Worth now offers a Cardiac Replacement Evaluation Program. This is the first program to offer LVAD evaluation for patients in Tarrant County and the surrounding metro areas. This new program offers patients the possibility of an enhanced quality of life with the convenience of being screened at Baylor Fort Worth.

An LVAD cardiologist or cardiovascular surgeon on the medical staff at Baylor Dallas, along with a care coordinator, evaluates patients for an LVAD, either as destination therapy or as bridge-to-transplant.

“The intent of the program is a combination of access and awareness,” said Shelley Hall, MD, a cardiologist on the medical staff at Baylor Dallas and medical director of cardiac transplant, LVAD and congestive heart failure programs at Baylor Dallas. “During the initial stages of an evaluation, we’re trying to determine if a patient is a candidate for an LVAD and if an LVAD is the right device for him or her. Since many patients may find it difficult to travel to Dallas, this offers the opportunity for them to be screened close to home.”

During the evaluation process, patients are screened for any co-morbidities with a life expectancy of less than five years. Renal, liver and pulmonary functions are assessed. There must be no contraindications to anticoagulation. Patients must not use drugs or alcohol, and have good social support. Smoking is discouraged. Because the LVAD can be complicated to manage, patients must have the capacity to handle a strict regimen.

Quick Facts

- The LVAD program at Baylor Dallas was the nation’s first to receive the Gold Seal of Approval from the Joint Commission.
- The Baylor/UTSW heart transplant program ranks above the national average for one-year and three-year patient survival statistics.
- In 2011, Baylor/UTSW performed 23 VADs and 30 heart transplants.
Lung Transplant Volumes at Baylor Dallas Nearly Triple

In 2011, 29 lung transplants were performed at Baylor University Medical Center at Dallas, a significant increase from the 11 procedures performed in the previous year. Transplants were performed for patients with chronic obstructive pulmonary disease, including emphysema and chronic bronchitis, interstitial lung disease, and an increasing number of patients with cystic fibrosis.

“Over the last two years, there has been a significant increase in the number of referrals for lung transplant, due in part to Baylor’s commitment to the entire thoracic transplant program,” said Randall L. Rosenblatt, MD, FACP, FCCP, medical director of lung transplantation and chief of pulmonary and critical care at Baylor Dallas. “Through the efforts of everyone involved—physicians, nurse coordinators and administration—we’ve been able to achieve improved patient outcomes, despite many patients being much sicker and at higher risk.”

Once a patient qualifies for a lung transplantation, he or she is listed on the United Network for Organ Sharing list and the likelihood of being transplanted is determined by their lung allocation score (LAD). The mean LAD for patients who received a lung transplant at Baylor Dallas was approximately 42, an indication of the increased severity of their illness. Similar to the MELD score for liver patients, the lung allocation score encompasses several variables that are thought to be predictive of someone’s survival. The LAD reflects the likelihood of someone living one year without a transplant vs. surviving one year with a transplant.

Because the donor pool for lung transplant is limited, Dr. Rosenblatt emphasized the importance of advanced lung disease clinics, which specialize in advanced lung disease.

“Currently, therapies for interstitial lung disease are very limited. It can be helpful to refer patients to an advanced lung disease program where there is expertise in the radiology and pathology of lung disease and the opportunity to participate in various treatment protocols,” he said. “At Baylor Dallas, we are fortunate to have physicians on the medical staff with the experience and knowledge to evaluate patients, properly classify their diagnosis, prescribe therapies based on certain protocols, and, when necessary, transition them into the lung transplantation program.”
For More Information, Call 1.800.774.2487.

With one phone call, a physician can request additional information, an appointment for a patient, or a consult. Call 1.800.774.2487 and a representative will assist you.

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