Key Takeaways:
• Multidisciplinary conferences facilitate a high level of understanding in developing treatment plans for complex cases.
• Radiologists can perform first-line reads on outside images to improve and expedite patient care, reduce rescans, and guide treatment decisions.
• By weighing in on complex patient cases to avoid repeat scans, radiologists can improve patient management and potentially save costs at their institutions.

A 55-year-old man was referred to the University of Mississippi Medical Center (UMMC) for surgical treatment of a suspected gastrointestinal stromal tumor. After reviewing the patient’s upper abdominal scans and discussing the case at a weekly multidisciplinary conference, UMMC radiologists thought the mass appeared cystic and suggested an MRI to better characterize the lesion before surgery was planned. It indeed was consistent with a benign duplication cyst, and the patient avoided surgery, with clean CT scans six and 12 months later.

Such positive outcomes are exactly what the radiologists at UMMC are seeking through their work with specialists to provide imaging-driven collaborative care.

Patient Planning
Through regular engagement with referring surgical physicians, UMMC’s subspecialty radiologists are delivering value both to the health care system and to patients struggling with complicated liver, biliary, and pancreatic ailments. The medical center’s hepatobiliary surgeons receive hundreds of referrals annually from smaller community hospitals for complex surgeries, including liver, kidney, and pancreatic transplants.

Since November of 2014, radiologists, the eyes of the operation, have been running weekly imaging-driven multidisciplinary conferences to discuss the institution’s 20 or so most complex cases for the upcoming week. The discussion brings together surgeons, interventional radiologists, residents, nurse practitioners, pathologists, and a radiation oncologist for multidisciplinary patient care from the outset of treatment, according to Frederico F. de Souza, MD, director of both the body imaging division and body imaging fellowship at UMMC and assistant professor of radiology at the University of Mississippi.

“Souza explains. “When we don’t have an answer, the radiologist recommends the best imaging modality to clarify the imaging finding.” The radiologist also advises about contrast allergies, preferred modalities in patients with increased risk of contrast-induced nephropathy or nephrogenic systemic fibrosis, and minimally invasive therapies.

Of the roughly 20 cases discussed each week, five are typically referrals from outside institutions, for a total of more than 200 outside imaging interpretations annually. These patients often bring along images — and interpretations — that do not necessarily answer all questions needed. For instance, the report may not address key imaging findings pertinent for appropriate management and surgical planning.

“We found there were often significant incongruences between the outside facility’s interpretation and our interpretation,” Souza explains. “This was concerning because the interpretations will dictate the main outcome relating to treatment, surgeries, and transplants.”

In one case, UMMC radiologists reviewed the CT scans of a 36-year-old woman who had been referred for surgery for hepatic adenomas. Souza’s team suggested an MRI to give the surgeon more information. “After performing the MRI with a hepatocyte specific agent,
Case Study: Teaming Up

we confidently diagnosed the patient with focal nodular hyperplasia, a different type of liver lesion that required no surgery or further treatment at that time,” Souza explains. “The surgeons had the confidence to make the right treatment decision and the patient was happy with the new, correct diagnosis that avoided unnecessary surgery.”

Financial Impact

By participating in multidisciplinary conferences for complex patients, radiologists not only assist in providing more accurate diagnoses, relevant imaging information, and effective treatment plans, they also save the health care system and patients money. Unfortunately, it’s common for specialists to just order another exam if they receive images or diagnoses they’re not confident with, explains Souza. The impacts of these rescans are significant: patients frequently take time off work and travel far distances for additional — often unnecessary — exams, which sometimes expose them to undue radiation. They also endure increased stress and anxiety while waiting for the results of yet another test.

UMMC plans to perform a cost analysis to quantify the savings that result from radiology’s recommendations at multidisciplinary meetings. Souza speculates the savings from repeat scans will be significant, and that hospital administrators will appreciate their efforts to avoid studies that aren’t reimbursed or are reimbursed at a minimal rate. UMMC’s radiology department has fully committed its time and resources to these important meetings, acknowledging that the support of medical imaging is a worthwhile investment toward efficient multidisciplinary care.

Meetings with Meaning

Christopher D. Anderson, MD, chair of the department of surgery and chief of the division of transplant and hepatobiliary surgery at UMMC, explains that the imaging-driven multidisciplinary meetings have enhanced the quality and efficiency of care delivered to patients. “We can leave the group session with almost complete care plans for complex patients,” he says. “From a value perspective, we are able to quickly determine if the imaging that came with the referred patient is adequate to make the diagnostic decision; and, if not, to determine which imaging modality is best or what is the next step in imaging.”

Truman M. Earl, MD, assistant professor of surgery in the division of transplant and hepatobiliary surgery, notes that the ability to effectively and swiftly establish comprehensive plans for complex patients results from a close working relationship among radiologists, surgeons, and other team members. “We all clearly know our roles and each other’s strengths. We’ve also come to understand the processes our body imagers go through with image review, and what additional information I can give to help them interpret the studies,” he says. “They also understand what I am looking for in the images when I’m planning a surgery. Face-to-face interaction is what really facilitates that level of understanding.”

These multidisciplinary, in-person meetings deliver far more value for patient care than does data sharing via phone or a report in the EHR. Group discussion spawns unique conversations and thought processes, “which help you see the whole patient, the bigger picture, and often a differential you may not see otherwise,” explains Souza, who suggests establishing regular opportunities for collaborative interaction among specialty physicians and clinicians in referring relationships.

An added benefit of the approximately 20 weekly case discussions is that, over the course of a year, attendees gain a unique and comprehensive understanding of more than 1,000 complex cases, adding to their knowledge base. For radiologists, that also means they have a significant opportunity to add value for both patients and providers. “By weighing in on these extra cases, you can become a better radiologist for your patients. Plus, you build trust, and referrers continue to want your help,” Souza says. Surgeons often call Souza to consult on cases, and even bring him into interviews of surgical candidates for employment at UMMC. As the surgeon-radiologist relationship has grown, so has radiology’s value in the larger picture of health care.

Referrers’ Ratings

Overall, the collaborative approach is making a positive impact on patient care, efficiency, cost-effectiveness, and the decision-making process at UMMC. By acting as a first-line interpreter of complex images and

Radiology’s Division of Body Imaging at the University of Mississippi Medical Center in Jackson is fully digital, integrating with oncology, gastrointestinal, genitourinary, and pulmonary medicine, as well as with thoracic surgery, urology, and GI/hepatobiliary surgery.
as an integral partner with their surgical cohorts, radiologists are helping to drive more efficient patient management. Decisions made during the consultations and at the multidisciplinary conferences often result in canceling or postponing unnecessary imaging exams. They also help some patients avoid surgery altogether, leading to lower costs and incidence of morbidity.

Additionally, the impact that the radiologists are making with their referring partners is clear. When Souza surveyed multidisciplinary conference physicians to determine how helpful body imaging consultation is to patient management, participants rated radiology’s input highly. Referrers reported that first-line reads improved patient management, increased efficiency, and added value for decision-making, further supporting radiology’s impact on the development of treatment plans.

Next Steps

- Meet with referring clinicians at your hospital regarding implementation of regular multidisciplinary conferences.
- Seek growth and continued improvement in the radiology-surgery relationship, providing opportunities for face-to-face interaction.
- Evaluate workflow for receiving medical images from outside institutions and offer first-line consults, enhancing radiology’s ability to impact patient management and quality of care.

Join the Discussion

Want to join the discussion about how radiologists and surgeons can work together to address complex cases? Let us know your thoughts on Twitter at #imaging3.

Have a case study idea you’d like to share with the radiology community? Please submit your idea to http://bit.ly/CaseStudyForm.