Meeting the Clinical Need for Low-dose Cardiac Studies

In December 2010, Clinic "La Reine Blanche" Orléans-France installed an Optima CT660 with ASiR. In explaining the reason to select the Optima CT660, Olivier Genée, MD, cardiologist, says, "The Optima CT660 fulfilled our requirement for a 40 mm wide detector." Another very important consideration for the facility is the issue of patient radiation dose, he adds. With ASiR, the clinicians may prescribe low-dose CCTA exams.

Predicting CCTA volume is a difficult task, yet the clinic believed that a scanner with advanced CTA imaging capabilities and low dose would increase patient and referring physician demand. Therefore, the total cost of ownership—including a smaller footprint that can reduce siting costs and lower energy consumption—was also an important factor in the facility's final decision. After a thorough review of available solutions and weighing the site's requirements, Dr. Genée and his team found the Optima CT660 best met their needs for an advanced imaging system with low dose capabilities—and lower operating costs.

Installation of the Optima CT660 has modified the diagnostic path in the clinic. For example, the clinic often requires a CCTA after an inconclusive scintigraph scan from a gamma camera before the patient undergoes a therapeutic angiography in the cath lab. Interestingly, as the volume of cath lab procedures increased, so too did the CCTA exams.

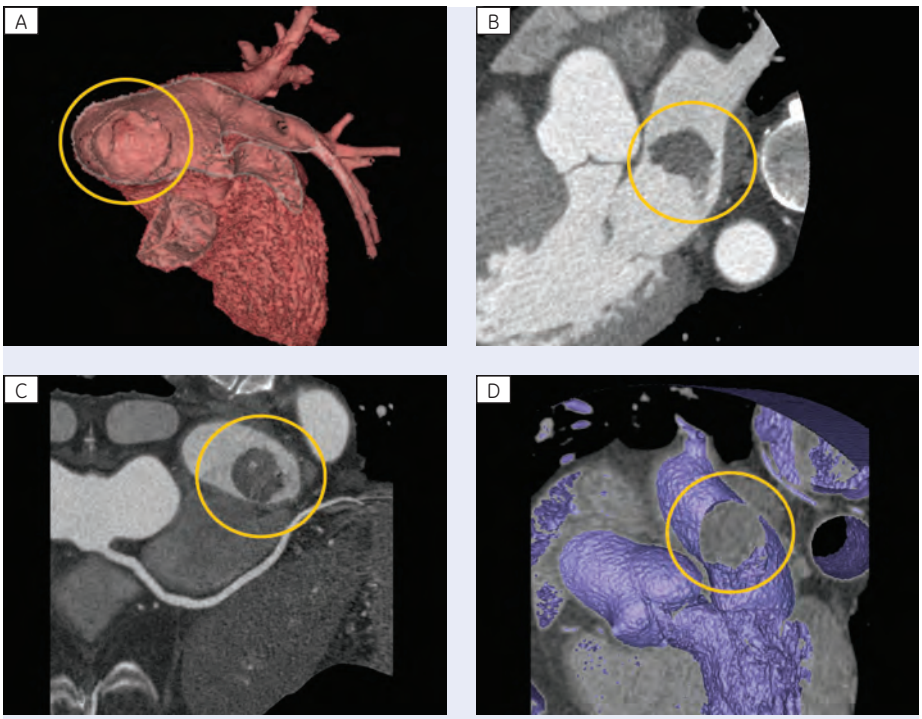
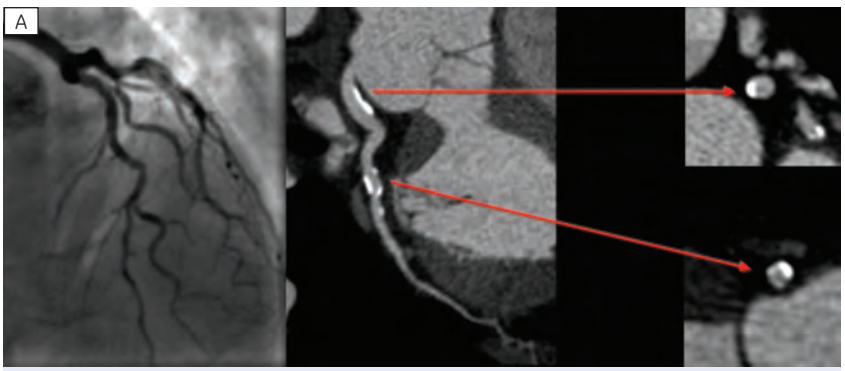


Figure 1. Myxome of the left atrium as seen in a retrospectively gated acquisition.



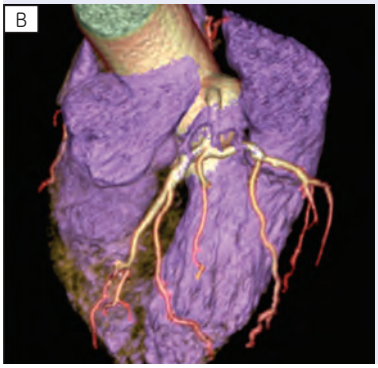


Figure 2. The vessel lumen is clearly seen as the calcium blooming is significantly reduced.

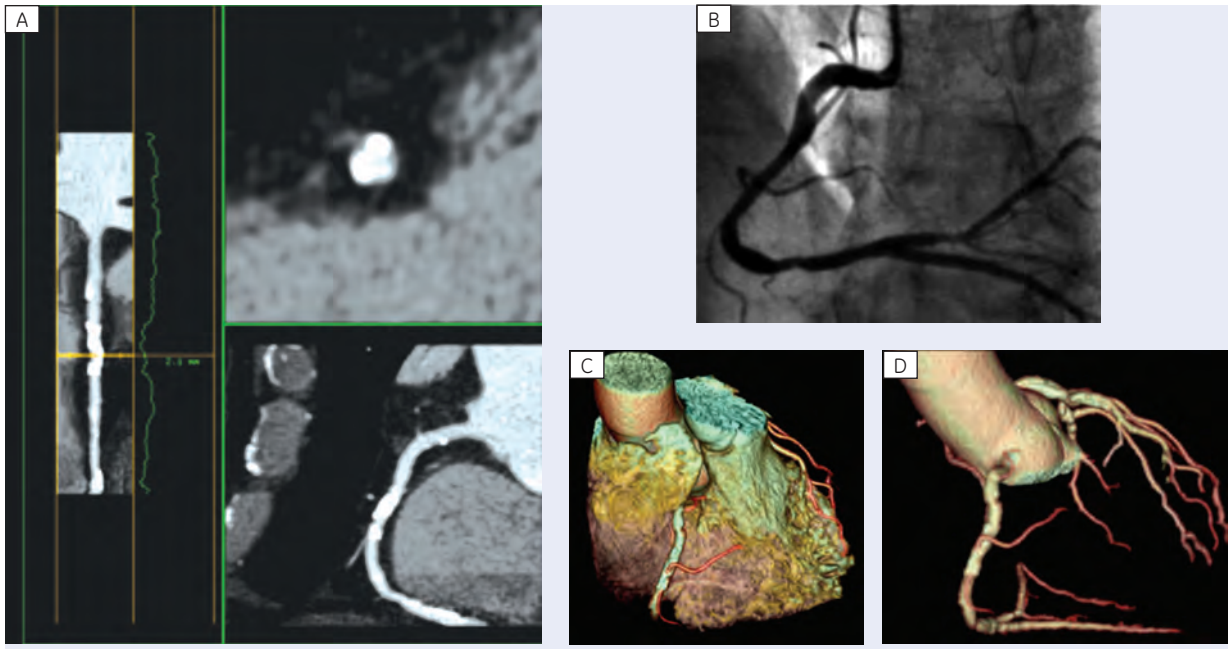


Figure 3. Approximately 50% stenosis seen in the RCA.

Dr. Genée says that the CCTA rules out false positives that often appear during stress tests and supports treatment decisions regarding coronary conditions. When the CCTA test indicates a low probability of CAD, the patient can avoid a diagnostic cath lab procedure. According to the clinic's practice, patient selection is determined with the help of a medical prescriber. If the patient's heart rate is over 65 bpm, the clinic uses beta-blockers prior to the CCTA.

Dr. Genée finds that performing CCTA in an emergency setting may be difficult due to patient arrhythmia or even fibrillation. The team finds the post processing is very flexible and powerful. Additionally, the Optima CT660 has allowed Clinic "La Reine Blanche" Orléans-France to perform new types of cardiac CT studies, further broadening its clinical expertise. The clinic conducts examinations of myocardium function in patients with certain non-echogenic tumors or inaccessible trans-esophageal ultrasound. Vascular CT exams allow for accurate diagnosis in cases of aorta dissection when trans-esophageal ultrasound is not sufficient. Finally, after the Optima CT660 installation, patients with an indication of pulmonary embolism can now be examined on site without transferring them to another hospital.

Asked what he would say to a colleague considering implementing an Optima CT660, Dr. Genée says, "We are very satisfied with the Optima CT660 with ASiR. It meets our expectations and offers an excellent quality-to-investment ratio." ■

Olivier Genée, MD, is a cardiologist at the Unité Cardiologique de la Reine Blanche (Orléans, France). He is also a specialist in emergency medicine. Dr. Genée received his initial medical training at the University of Lille, and worked in the cardiac intensive care unit of the University Hospital Center of Tours. He is an expert in treatments and non-invasive cardiac explorations, including transthoracic echocardiography, cardiac CT, and MRI. Dr. Genée is an associate member of the French Society of Cardiology, and a member of the French Society of Emergency Physicians. He is also a researcher and has authored several articles and publications in cardiology and emergency medicine.

Clinic "La Reine Blanche" Orléans-France is a medium-sized hospital of more than 200 beds. Since the clinic opened in 1970, its primary focus is cardiology and pathologies linked to cardiovascular such as diabetes, endocrinal disease, and kidney failure. The medical recruitment involves at least 20 cardiac CT Angiography (CCTA) exams each week. The clinic also has a follow-up care mission in cardiac, nutrition, and post pathologies recovery. Currently the Cardiology Department provides services to the Loiret and Romorantin-Lanthenay region. In 2013, the clinic plans to merge healthcare services to a new facility with two other institutions from Orléans: Polyclinic des Longues Allées and the Radiotherapy center COROM. This new clinic will have approximately 500 beds and offer all surgery activities, along with cardiovascular services, to the residents North of Orléans city.