

New MR Contrast Media

New MR contrast media and new areas of application for existing contrast media attracted attention at the ECR across all scientific sessions.

Blood Pool Contrast Media

The focus of interest was particularly on the new blood pool contrast media. These stand out due to the fact that they remain in the vessel for a particularly long time. This is possible because there is little extravasation into the surrounding tissue or renal excretion. This allows more time for MR imaging – a favourable situation, especially for high-resolution images. An improved signal enhancement also enables small vessels to be displayed, particularly the coronary vessels and the peripheral vascular system. In addition, blood pool contrast media allow several images of the vascular system to be recorded during one examination or the administration of more contrast media.

New Vascular Closure Device

St. Jude Medical announced U.S. Food and Drug Administration (FDA) approval and launch of its next generation vascular closure device, the Angio-Seal VIP. The new device, which is approved for both diagnostic and interventional procedures, gives physicians an improved method for sealing arterial catheterization access sites. Because the new device provides more coverage on the artery surface than previous devices, physicians may more effectively achieve hemostasis (cessation of bleeding), even in patients using certain blood thinners. In addition, the device's coated suture makes it easier to use, enhancing physicians' ability to effectively seal access sites. If physicians need to access the site a second time, they can safely re-enter with the Angio-Seal VIP device within 1 cm of the original site.

Consistent And Strong

The Medtronic Endeavor drug-eluting coronary stent system continues to demonstrate both consistent clinical efficacy and a strong safety profile, according to new data presented today at the American College of Cardiology (ACC) 55th Annual Scientific Session in Atlanta. Updated results from the Endeavor III confirmatory U.S. trial and pooled data from 1,300 patients across four global clinical studies provide further evidence that Endeavor stent is deliverable, effective and safe in treating patients with coronary artery disease.

"The clinical performance of Endeavor is well-characterized in our four clinical trials", said Scott Ward, Medtronic senior vice president and president of Medtronic Vascular. "With each milestone that we pass, we continue to see consistency between each trial and across various patient subsets within each trial, as well as an ongoing safety profile that remains truly remarkable."

Conor Medsystems

Conor Medsystems exercised its option to obtain a worldwide, non-exclusive license from Novartis Pharma to the pharmaceutical compound pimecrolimus for use with Conor's next-generation controlled vascular drug delivery technologies. Conor expects to begin a clinical trial this year evaluating the therapeutic potential of two novel stents incorporating pimecrolimus for the treatment of coronary artery disease. Both stents will utilize the company's reservoir-based cobalt chromium drug-eluting stent platform. One stent will be loaded with pimecrolimus, and the other stent will be a dual-drug stent loaded with both pimecrolimus and paclitaxel. The initiation of this clinical trial will position Conor as a leader in dual-drug delivery stents.

"The group of contrast media has undergone substantial development since an albumin-bound substance containing gadolinium was used for the first time in the 80s in San Francisco", said Emmanuelle Canet-Soulas from the University of Lyon in France. In addition to high-resolution imaging of the cardiovascular system, she also sees other potential applications, such as evaluating tissue perfusion, tissue permeability and imaging the vessel-wall.

New "Intelligent" MR Contrast Media

The new MR contrast media also include Gadofluorine from the group of "mixed micelles". This can be used for i.v. lymphography or to detect the degeneration of peripheral nerve fibres, for example after a crush injury.

One example of a new, receptor-specific contrast media is the antibody conjugated with gadolinium for

the breast cancer receptor Her-2/new, which binds to this specific structure of the breast cancer cells.

"Smart" contrast media are compounds that only appear as contrast media when they have reached their target tissue. These are particularly interesting for stem cell research, because they can show how and where stem cells injected into tissue develop.

New MRT Application of Ultrasmall Iron Oxide Particles

Ultrasmall superparamagnetic iron oxide (USPIO) is currently being tested with respect to diagnosing processes associated with phagocytosis, such as inflammations, encephalomyelitis and atherosclerosis. The 2005 winner of the Röntgen Prize, Heike Daldrup-Link from the University of California in San Francisco, USA, outlined the imaging of focal bone marrow lesions, cerebral infarction, multiple sclerosis plaques, atherosclerotic plaques and the detection

and characterisation of arthritic change as future areas of application for USPIO.

Gadolinium-based Contrast Media in CT Imaging

Contrast media containing gadolinium proved to be an interface between MRT and CT: these were developed for MR imaging, and until now were only approved for this procedure. However, as they are essentially also suitable for use as a CT contrast media, they are currently being discussed as an alternative to contrast media containing iodine. "Patients with a contraindication for the use of iodine-based contrast media could benefit from this," says Marc Kalinowski from the Philipps University Hospital in Marburg. Studies here showed that pigs tolerated even the highest doses of 1-molar Gadobutrol very well. Further tests with high gadolinium doses are still required, however.

Martin Hermes, Berlin, Germany



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