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HEXABRIX[®]—Low-Osmolar, Low-Viscous Contrast Medium

Versatile CM with Anti-Coagulant and Anti-Thrombotic Properties

Since 1901, Guerbet has been a pioneer in the development of contrast media for medical imaging. Its products are marketed in 130 countries, and over 60,000 healthcare professionals rely on these to diagnose disease and assess treatment efficacy. In the US, **Guerbet LLC (Bloomington, IN)** offers **OXILAN[®]** (ioxilan injection), a non-ionic, low-osmolar, and low-viscous agent for diagnostic and interventional procedures, and **Hexabrix[®]** (Ioxaglate Meglumine 39.3%/Ioxaglate Sodium 19.6% Injection), a low-osmolar, low-viscous, ionic iodinated contrast agent for interventional cardiac procedures.

Physico-Chemical Characteristics

Hexabrix offers a unique physicochemical profile within the concentration range of 320 to 370 mgI/mL. With an osmolality of 600 mOsm/kg H₂O, Hexabrix is the lowest of all low-osmolar contrast media.^{1,2} This characteristic has been shown to improve patient comfort and to minimize patient movement. By comparison, the threshold of vascular pain has been determined to be approximately 700-750 mOsm/kg H₂O.³

In addition to low osmolality, Hexabrix has the lowest viscosity of all the dimers that have an iodine concentration of 320 mgI/mL, and one of the lowest of any contrast medium: 7.5 cPs at 37°C; 15.7 cPs at 20°C.^{1,2} The low viscosity makes for easy injection through small-diameter catheters, and provides better flow through small blood vessels and capillaries.^{4,5,6} It also allows for increased flow rate and lower injection pressures, and facilitates a minimally invasive approach to interventional procedures.²

Anti-Thrombotic Anti-Platelet Properties

Hexabrix provides the proven anti-coagulant and anti-thrombotic properties of an ionic contrast media.¹ It has been shown—both in *in vitro* and in animal studies—to act against the formation of thrombin, fibrin, and to inhibit the activation of resting platelets.^{7,8,9,10}

In clinical studies, Hexabrix has been shown to reduce the occurrence of ischemic complications acutely, and at one month in patients with unstable ischemic syndromes undergoing coronary angioplasty.¹¹ In a second clinical study, reflecting the current

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era of PCI (percutaneous coronary intervention), the authors noted that thrombus-related events were more frequent with the iso-osmolar non-ionic dimer iodixanol than with the low-osmolar ionic agent ioxaglate (Hexabrix).¹²

The risk of developing renal failure has also been shown to be lower with Hexabrix than with the iso-osmolar contrast media Visipaque™ at one and three months post procedure.¹³

Practical Use

Practical experience with using Hexabrix bears out the research findings. Steven V. Manoukian, MD, FACC, FSCAI, is Director of Cardiovascular Research at the Sarah Cannon Research Institute and an interventional cardiologist at Centennial Heart Center, Nashville, TN. Manoukian has published on the important properties of contrast media, such as viscosity and contrast-induced nephropathy, as well as anti-platelet and anti-coagulant agents in acute coronary syndromes and PCI. He feels that as much attention should be paid to the choice of a contrast medium for a patient undergoing a diagnostic or interventional radiographic procedure as one would to the choice of an anti-thrombotic or anti-platelet agent for an ACS or stent for a PCI. "It's that important because there is recent data that Hexabrix is associated with a lower risk of thrombus-related events in patients undergoing PCI compared to non-ionic contrast media such as iodixanol," he says.


He argues that the profile of Hexabrix makes it especially suited for PCI. "The combination of low osmolality and low viscosity are vital attributes. But it is these properties in combination with the ionic structure that provides anti-coagulant and anti-platelet activity which makes Hexabrix unique compared to other contrast media," he adds. "The unique combination of properties found in Hexabrix is potentially advantageous in reducing the risk of the procedure and ensuring a successful patient outcome."

Applications

Hexabrix is used in a variety of radiographic procedures, including pediatric angiography, selective coronary arteriography—with or without left ventriculography—peripheral arteriography, aortography, selective visceral arteriography, intra-arterial and intravenous digital subtraction angiography, and peripheral venography (phlebography). Hexabrix is not indicated for intrathecal use. Hexabrix is contraindicated for use in myelography. Serious adverse reactions have been reported due to the inadvertent intrathecal administration of iodinated contrast media that are not indicated for intrathecal use. These serious adverse reactions include: death, convulsions, cerebral hemorrhage, coma, paralysis, arachnoiditis, acute renal failure, cardiac arrest, seizures, rhabdomyolysis, hyperthermia, and brain edema. Special attention must be given to insure that this drug product is not administered intrathecally. Ionic iodinated contrast

media inhibit blood coagulation, *in vitro*, more than nonionic contrast media. For full information on Hexabrix, please refer to the full prescribing information.

Conclusion

With its variety of applications, proven physico-chemical parameters and anti-thrombotic and anti-platelet properties, Hexabrix offers a new dimension in contrast imaging. Contact **Guerbet** for more information about this versatile and important product. 

To Learn More

To learn more about **Hexabrix**, please call 1-877-729-6679, or visit the Web site www.guerbet-us.com.

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