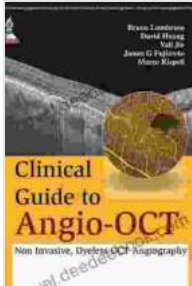


Non-Invasive Dyeless Oct Angiography: A Comprehensive Guide



Clinical Guide to Angio-OCT: Non Invasive, Dyeless OCT Angiography by Shari Hearn

★★★★☆ 4.6 out of 5

Language : English

File size : 17908 KB

Screen Reader : Supported

Print length : 100 pages



Optical coherence tomography (OCT) angiography is a non-invasive imaging technique that uses light to create detailed images of the microvasculature of the eye. Traditional OCT angiography requires the injection of a dye into the bloodstream, which can be uncomfortable and potentially harmful to some patients. However, recent advances in OCT technology have made it possible to perform dyeless OCT angiography, which does not require the use of dyes.

Principles of Dyeless OCT Angiography

Dyeless OCT angiography uses a technique called split-spectrum amplitude-decorrelation angiography (SSADA) to generate images of the microvasculature. SSADA uses two different wavelengths of light to illuminate the eye. The first wavelength is absorbed by the hemoglobin in the blood vessels, while the second wavelength is not. By measuring the difference in the amount of light that is absorbed by the two wavelengths, SSADA can create an image of the blood vessels.

Applications of Dyeless OCT Angiography

Dyeless OCT angiography has a wide range of applications in ophthalmology, including:

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- **Diagnosis and monitoring of retinal diseases**, such as diabetic retinopathy, macular degeneration, and glaucoma

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- **Evaluation of the optic nerve**

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- **Assessment of choroidal кровообращение**

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- **Detection of retinal and choroidal tumors**

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- **Preoperative planning and postoperative monitoring of vitreoretinal surgery**

Advantages of Dyeless OCT Angiography

Dyeless OCT angiography offers several advantages over traditional OCT angiography, including:

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- **Non-invasive:** Dyeless OCT angiography does not require the injection of a dye, which makes it more comfortable and safer for patients.

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- **Rapid:** Dyeless OCT angiography can be performed quickly, typically in less than 5 minutes.

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- **High resolution:** Dyeless OCT angiography provides high-resolution images of the microvasculature, which allows for the detection of even small changes in кровообращение.

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- **Versatile:** Dyeless OCT angiography can be used to image a wide range of ocular structures, including the retina, optic nerve, and choroid.

Limitations of Dyeless OCT Angiography

Dyeless OCT angiography also has some limitations, including:

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- **Motion artifacts:** Dyeless OCT angiography is sensitive to motion artifacts, which can make it difficult to obtain clear images in patients who are unable to remain still.

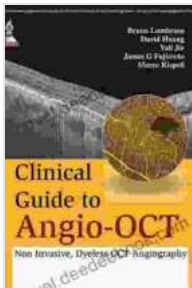
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- **Limited depth penetration:** Dyeless OCT angiography has a limited depth penetration, which means that it cannot be used to image the deeper structures of the eye, such as the vitreous humor.

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- **Cost:** Dyeless OCT angiography is more expensive than traditional OCT angiography.

Dyeless OCT angiography is a promising new imaging technique that offers several advantages over traditional OCT angiography. It is non-invasive, rapid, high resolution, and versatile. However, it also has some limitations, such as motion artifacts, limited depth penetration, and cost. Overall, dyeless OCT angiography is a valuable tool for the diagnosis and management of a wide range of ophthalmic diseases.



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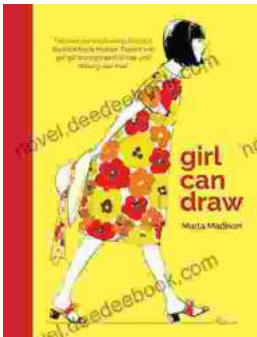
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