Optical Coherence Tomography Device For Characterization Of Atherosclerosis

Tech ID: 28679 / UC Case 2017-572-0

BRIEF DESCRIPTION

The invention is a multimodal imaging system that includes an optical coherence tomography device using a particular laser source for accurate and in-depth imaging. The new technology provides a more accurate and detailed imaging solution that aids in reaching a more accurate assessment for the patient's condition, thus determining the adequate intervention method. Clearly, providing an accurate atherosclerotic plaque identification and treatment option will contribute significantly to treating cardiovascular diseases, which happens to be a leading cause of death in many countries.

FULL DESCRIPTION

Cardiovascular diseases are a leading cause of death in many countries, with atherosclerotic plaques being the main cause of these diseases. Accurate assessment of the plaque, including its type, is critical for determining the best treatment option for the patient. For that purpose, optical coherence tomography (OCT) with a 1.3 mm laser source is by far the most frequently utilized instrument. Although the 1.3 mm laser OCT identifies some of the key characteristics of plaque, unfortunately, this imaging device is limited by the penetration depth achieved.

To overcome this drawback, ultrasound- in spite of its relatively lower resolution- is used together with the OCT to obtain better plaque detection and identification

Researchers at the University of California, Irvine, have created an innovative integrated imaging system that integrates a new laser source, which offers better penetration depth and sharper images, with imaging solutions like ultrasound, near infrared and photo acoustic imaging techniques. The new OCT can improve the identification and detection plaque. This integrated imaging system clearly offers a reliable determination plaque constituents especially among patients suffering from atherosclerosis.

SUGGESTED USES

· Optical coherence tomography (OCT)

· Detection of lipid-like structures

ADVANTAGES

· Using a new laser source for better penetration and plaque identification

· Multimodality imaging systems, integrating a laser source, for accurate and reliable assessment

· High sensitivity Sharper images resulting from higher contrast between the lipid and the tissue

PATENT STATUS

CONTACT

Alvin Viray
aviray@uci.edu
tel: 949-824-3104.

OTHER INFORMATION

CATEGORIZED AS

» **Optics and Photonics**
» All Optics and Photonics
» **Imaging**
» Medical
» **Medical**
» Imaging

RELATED CASES

2017-572-0

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,241,155	02/08/2022	2017-572

STATE OF DEVELOPMENT

The researchers have devised an intravascular OCT system built with a new laser source and capable of producing images of human coronary artery.

UCI Beall
Applied Innovation

5270 California Avenue / Irvine,CA
92697-7700 / Tel: 949.824.2683

© 2017 - 2022, The Regents of the University of California
Terms of use
Privacy Notice