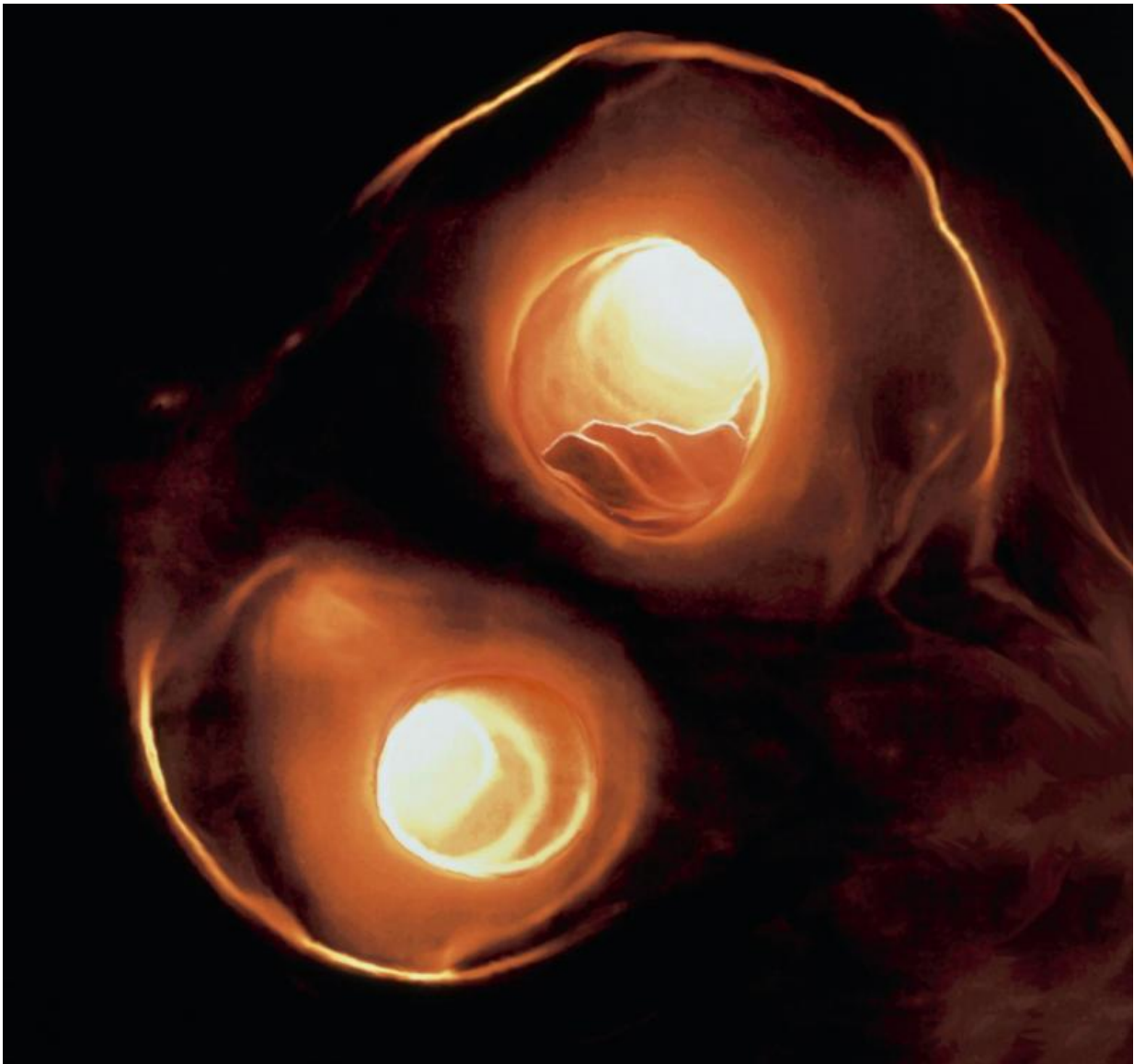


Ultrasound examinations can identify patients at risk of stroke

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Atherosclerosis in carotid artery. Credit: Science Photo

Ultrasound, a non-invasive technique commonly used to study the presence of atherosclerosis disease in blood vessels, can be used to identify patients at increased risk of future stroke who could benefit from surgery. Since surgical treatment to prevent stroke is only considered beneficial to some, ultrasound can prove useful in preventing unnecessary surgical intervention, new research at Umeå University in Sweden shows.

Atherosclerosis, or hardening of the arteries, is an inflammatory disease affecting the arteries supplying the brain, heart, other organs and extremities with oxygen-rich blood. A well-established atherosclerosis disease, with accumulation of plaque narrowing the arteries, can obstruct the blood supply to the brain and other vital organs. Atherosclerosis in the neck [arteries](#) can cause [stroke](#). The serious condition, known as carotid stenosis, is quite common in the elderly as well as in people with risk factors such as hypertension, smoking, diabetes, hypercholesterolemia and obesity.

Atherosclerosis disease progression can be controlled by medical treatment including cholesterol-lowering drugs, and significant narrowing in symptomatic [patients](#) can be treated surgically.

"We know that preventive [surgical treatment](#) of [carotid stenosis](#) is only beneficial for a small subgroup, and that most asymptomatic patients will do better with only medical therapy. By using ultrasound, we can identify the patients who are at a higher risk of stroke and thus would benefit from surgery. But preventing unnecessary surgical intervention in most cases is equally important," says Fisnik Jashari, doctoral student at the Department of Public Health and Clinical Medicine and author of the dissertation.

To assess the nature of atherosclerosis disease and the extent of plaque build-up, the non-invasive ultrasound method remains favoured over most others because it is radiation free, cheap and patient-friendly.

More information: umu.diva-portal.org/smash/record.jsf?pid=diva2%3A866385&dswid=-6814

Provided by Umea University

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