Medical Xpress

New method to diagnose sinusitis could reduce use of antibiotics

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A new method of diagnosing sinusitis is presented in a new thesis from Lund University. The results offer the potential to reduce the use of antibiotics and the costs of the disease to society.

Sinusitis is a very common disease and exists in both an acute and a chronic form. In Europe, over nine per cent of the population suffers from chronic sinusitis.

The author of the thesis is Pernilla Sahlstrand Johnson, a PhD student and ear, nose and throat doctor at Lund University and Skåne University Hospital. In the work on the thesis, she and her colleagues at the Faculty of Engineering at Lund University tested and evaluated a new method to better diagnose sinusitis. The method employs a Doppler ultrasound sensor, which, unlike a normal ultrasound or CT scan, can determine the viscosity of the sinus fluid. Until now, the only way to find this out for certain has been by flushing out the maxillary sinuses, which is an unpleasant procedure for the patient.

Only patients with thick sinus fluid are considered to need antibiotics, while for those with thin fluid there are other effective treatment options.

"Antibiotic resistance is seen as a growing problem. One in four people in Sweden takes antibiotics at least once a year, and many of these have been diagnosed with sinusitis. A more accurate diagnosis could reduce the amount of antibiotics prescribed and the right treatment could also

reduce costs", says Pernilla Sahlstrand Johnson. "We have used the new method in the laboratory with good results. We are planning to trial the Doppler ultrasound sensor in a clinical environment soon, on a number of patients at the Ear, Nose and Throat Clinic at Skåne University Hospital in Malmö and Lund."

Pernilla Sahlstrand Johnson has also studied the self-perceived quality of life of a group of just over 200 patients awaiting sinus surgery. As well as the Ear, Nose and Throat Clinics in Skåne, patients at Karolinska and Sahlgrenska University Hospitals have also completed questionnaires for the study, which is one of the largest of its kind.

Both general questionnaires and questionnaires specific to sinusitis have been used, and the answers shed light on the patients' perceived quality of life and mental health and their absence from work. The responses indicate high levels of absence -- patients reported 80 days of sick leave in the course of a year resulting from their sinus problems.

"The participants in our study experienced a significant fall in quality of life as a result of their sinusitis -- greater than in other large patient groups with diseases such as angina or cancer. Sinusitis probably also has a major financial impact on society, as it is a common disease and leads to relatively high levels of sick leave", says Pernilla Sahlstrand Johnson.

Contact:

Pernilla Sahlstrand Johnson

46-40-33-23-34

46-733-36-95-54

pernilla.sahltrand_johnson@med.lu.se

Pernilla Sahlstrand Johnson defended her thesis on 30 September 2011. The title of the thesis is "On health-related quality of life and diagnostic improvement in rhinosinusitis"
http://www.lu.se/o.o.i.s?id=12588&postid=2117512

For a downloadable photograph of Pernilla Sahlstrand Johnson, search for Pernilla Sahlstrand in the Lund University image bank: http://bildweb.srv.lu.se/.

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