

Fibromyalgia can no longer be called the 'invisible' syndrome

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Using single photon emission computed tomography (SPECT), researchers in France were able to detect functional abnormalities in certain regions in the brains of patients diagnosed with fibromyalgia, reinforcing the idea that symptoms of the disorder are related to a dysfunction in those parts of the brain where pain is processed.

"Fibromyalgia is frequently considered an 'invisible syndrome' since musculoskeletal imaging is negative," said Eric Guedj, M.D., and lead author of the study. "Past imaging studies of patients with the syndrome, however, have shown above-normal cerebral blood flow (brain perfusion) in some areas of the brain and below-normal in other areas. After performing whole-brain scans on the participants, we used a statistical analysis to study the relationship between functional activity in even the smallest area of the brain and various parameters related to pain, disability and anxiety/depression."

In the study, which was reported in the November issue of *The Journal of Nuclear Medicine*, 20 women diagnosed with fibromyalgia and 10 healthy women as a control group responded to questionnaires to determine levels of pain, disability, anxiety and depression. SPECT was then performed, and positive and negative correlations were determined.

The researchers confirmed that patients with the syndrome exhibited brain perfusion abnormalities in comparison to the healthy subjects. Further, these abnormalities were found to be directly correlated with the severity of the disease. An increase in perfusion (hyperperfusion)

was found in that region of the brain known to discriminate pain intensity, and a decrease (hypoperfusion) was found within those areas thought to be involved in emotional responses to pain.

In the past, some researchers have thought that the pain reported by fibromyalgia patients was the result of depression rather than symptoms of a disorder. "Interestingly, we found that these functional abnormalities were independent of anxiety and depression status," Guedj said.

According to Guedj, disability is frequently used in controlled clinical trials to evaluate response to treatment. Because molecular imaging techniques such as SPECT can help predict a patient's response to a specific treatment and evaluate brain-processing recovery during follow-up, it could prove useful when integrated into future pharmacological controlled trials.

"Fibromyalgia may be related to a global dysfunction of cerebral pain-processing," Guedj added. "This study demonstrates that these patients exhibit modifications of brain perfusion not found in healthy subjects and reinforces the idea that fibromyalgia is a 'real disease/disorder.'"

According to the National Institute of Arthritis and Musculoskeletal and Skin Diseases, fibromyalgia syndrome is a common and chronic disorder characterized by widespread muscle pain, fatigue and multiple tender points. Tender points are specific places—for example, on the neck, shoulders, back, hips, and upper and lower extremities—where people with fibromyalgia feel pain in response to slight pressure. The syndrome is one of the most common causes of musculoskeletal pain and disability and affects three to six million, or as many as one in 50, Americans. Between 80 and 90 percent of those diagnosed are women.

Although fibromyalgia is often considered an arthritis-related condition,

it does not cause inflammation or damage to the joints, muscles or other tissues. Like arthritis, however, the significant pain and fatigue caused by fibromyalgia can interfere with a person's ability to carry out daily activities.

Source: Society of Nuclear Medicine

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