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Targeting Malaria By Preventing Survival Of The Parasite's Offspring

BY SARA, ON MARCH 19TH, 2011

Fresh insight into the way the parasite that causes malaria reproduces could lead to new treatments to help curb the spread of the disease.

Scientists studying the disease have found that upsetting the parasite's reproductive strategy could prevent infections from transmitting from person to person.

Researchers at the Universities of Edinburgh and Oxford examined the parasite at a stage of its development in which it produces male and female forms in the bloodstream of its victims. These parasites then breed inside mosquitoes to produce fresh offspring that are transmitted when the insects feed on other people or animals.

The study showed that killing either the male or female forms was ineffective at stopping the spread of the disease, because the parasites replace those which are lost. However, the researchers were able to overcome this by damaging the male and female forms instead of killing them. This meant that although the parasites were able to reproduce, their offspring did not survive.

Malaria affects people and animals and is spread by the bite of the mosquito. The disease kills approximately one million people each year, mainly children in sub-Saharan Africa, and affects hundreds of millions more.

The study, published in PLoS Pathogens, was funded by the Portuguese Foundation for Science and Technology, the Royal Society, Balliol College Oxford and the Wellcome Trust.

Ricardo Ramiro, of the University of Edinburgh's School of Biological Sciences, who took part in the study, said: "Our studies show that inflicting just the right amount of damage could be the best way to interrupt the malaria parasite's development in the mosquito and help prevent the spread of disease."

Source: Catriona Kelly
University of Edinburgh

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Knee Arthritis Symptoms In Older Adults Adversely Affected By Depression

BY SARA, ON MARCH 19TH, 2011

Clinical depression can exacerbate the symptoms of knee arthritis beyond what is evident on X-rays, according to a new study from the Journal of Bone and Joint Surgery (JBJS). Patients with mild to moderate knee arthritis are especially affected by depression, the study notes.

“Knee osteoarthritis is a common cause of pain and impairment in older adults,” said Tae Kyun Kim, MD, study author and director of the Division of Knee Surgery and Sports Medicine at Seoul National University Bundang Hospital’s Joint Reconstruction Center. “Often, the level of arthritic symptoms reported by patients is much more severe than what is represented by X-rays, which can make it difficult for the doctor to treat.

“The results of this study indicate that depression can play a major role in the way patients experience the symptoms of knee arthritis, and that even when X-rays show the arthritis is not severe, patients with depression may report significant pain,” Dr. Kim said. “The relationship between pain and depression suggests that both should be considered by physicians when treating patients with knee osteoarthritis, particularly in those with X-rays not indicating severe damage to the joint.”

The study included 660 men and women aged 65 years or older who were evaluated for the severity of their knee arthritis on X-rays, as well as symptom severity. Patient interviews and questionnaires were

used to assess coincident depressive disorders. The study was conducted as a part of the Korean Longitudinal Study on Health and Aging (KLoSHA).

As expected, the researchers found the levels of pain attributed to knee arthritis were higher in patients whose X-rays indicated greater joint damage; however, they also found depressive disorders were associated with an increase in pain in patients with mild to moderate knee arthritis, even when X-rays did not show significant joint damage.

“When evaluating the results of this study, the contribution of depression to knee osteoarthritis symptoms was almost as important as the damage indicated on X-rays,” Dr. Kim noted.

Knee arthritis typically affects men and women over 50 years of age, and occurs most frequently in people who are overweight. Common symptoms include:

pain or stiffness in or around the knee;
swelling of the knee;
limited range of motion when walking or moving the knee; or
knee weakness or a feeling of instability.

In more severe cases, the knee joint may appear deformed, such as bowlegged or knock-kneed appearance, either bulging outward or toward the side of the leg. Knee replacement surgery is often performed in patients with severe symptoms.

Although studies have indicated depression is not uncommon among older adults, it remains largely underdiagnosed. According to the National Institute of Mental Health (NIMH):

The risk of depression increases with other illnesses and when ability to function becomes limited. Estimates of major depression in older people range from 1 percent to 5 percent among those living in the community, to as high as 11.5 percent in hospital patients and 13.5 percent in those who require home healthcare.

An estimated 5 million older adults have mild depression, which is often undiagnosed. Symptoms of depression may include:

feelings of sadness or hopelessness;
loss of interest in activities that were once enjoyed;
change in appetite or sleep patterns;
difficulty thinking and remembering; or
frequent thoughts of death or dying.

“Despite the reported satisfactory outcomes of knee replacement surgery a percentage of patients still experience knee pain and impaired movement,” said Dr. Kim said. “Sometimes pain and disability after surgery is medically unexplained, so in these patients screening for depression might be a very good option.”

Source: Lauren Pearson

American Academy of Orthopaedic Surgeons

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