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New research reveals that in women, **obesity** may **influence blood tests used** to diagnose and monitor **rheumatoid arthritis**. The findings, which appear in Arthritis Care & Research, indicate that physicians need to take obesity into account when using these tests.

Blood tests for C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) can help physicians assess levels of inflammation in the body. The tests may be used for diagnosing rheumatoid arthritis and for determining how well treatment is working in affected patients.

Because some studies have found links between higher levels of CRP and ESR with greater body mass index (BMI), Michael George, MD MSCE, of the University of Pennsylvania Health System, and his colleagues sought to determine the extent to which obesity biases these markers. The researchers analyzed information on 2,103 individuals with rheumatoid arthritis and compared it with data from the general population.?

Among women with rheumatoid arthritis and in the general population, greater BMI was associated with greater CRP, especially among women with severe obesity. There was also a modest association between obesity and ESR in women. These links were also seen in men in the general population, but the connection between obesity and inflammation was different in men with rheumatoid arthritis. In these individuals, lower BMI was associated with greater CRP and ESR. This finding may be important for understanding the relationship between weight and inflammation and how it may differ between men and women.

“Our results suggest that obesity may lead to increased levels of CRP and ESR in women with rheumatoid arthritis,” said Dr. George. “The increase in these levels of inflammation was not because rheumatoid arthritis was worse in these women. In fact, we found that obesity leads to very similar increases in these lab tests even in women without rheumatoid arthritis.”

Dr. George noted that physicians need to be careful when interpreting these lab tests since both rheumatoid arthritis and obesity can contribute to levels of inflammation. “Physicians might assume that high levels of inflammation mean that a patient has rheumatoid arthritis or that their rheumatoid arthritis requires more treatment when in fact a mild increase in levels of inflammation could be due to obesity instead,” he explained.