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Bioactive lipids and rheumatoid arthritis

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Sphingolipids – long-chain fatty acid molecules found in cell membranes – are broken down by sphingomyelinase enzymes into bioactive products such as ceramide. Growing evidence suggests roles for sphingolipid metabolites in the pathogenesis of rheumatoid arthritis (RA), a chronic inflammatory disease affecting joints.

Leslie Crofford, M.D., and colleagues determined the activity of secretory sphingomyelinase (S-SMase) in patients with RA compared to control subjects, and they examined relationships between S-SMase activity and quality of life and other RA disease measurements.

Using clinical data and archived serum samples from 33 patients with RA and 17 matched control subjects, the investigators found that mean serum S-SMase activity was 1.4-fold higher in patients with RA. S-SMase activity correlated with P-selectin, a biomarker of inflammation, but not with other RA disease measurements.

The findings, reported in the journal *Clinical Rheumatology*, demonstrate that S-SMase activity is higher among rheumatoid arthritis patients compared to controls and support conducting studies to understand the biologic roles of S-SMase in rheumatoid arthritis.

More information: Beatriz Y. Hanaoka et al. Secretory sphingomyelinase (S-SMase) activity is elevated in patients with rheumatoid arthritis, *Clinical Rheumatology* (2017). DOI: 10.1007/s10067-017-3824-1

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