

<b>Title</b>	Positive association between blood C3 level and liver fat content quantified by $^1\text{H}$ magnetic resonance spectroscopy in Japanese men
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<p><b>Abstract:</b>(no more than 200 words)</p> <p><i>Introduction:</i> Increased formation and accumulation of triacylglycerol in the liver itself may contribute to the pathogenesis of nonalcoholic steatohepatitis. The complement system is an important component of humoral immunity that recognizes danger signals such as tissue injury and inflammation. All pathways for the activation of the complement system converge upon complement 3 (C3). We aimed to determine whether C3 is positively related to the degree of liver fat content in healthy Japanese adults.</p> <p><i>Method:</i> Middle-aged male subjects who drank less than 46g/day alcohol (n=40) were studied. <math>\text{H}^1</math> magnetic resonance spectroscopy was used to quantify liver fat content, (3T, Siemens MR, TE=30ms). Volume of interest was determined in the right liver lobe with a size of 4×4×4 cm. The spectrogram was analyzed by LC Model.</p> <p><i>Results:</i> Mean age and body mass index were 62.5 years and 24.5 kg/m<sup>2</sup>. The geometric mean and 95% confidence interval of C3 (mg/dl) in the lowest, medium, and highest liver fat tertile were 96.5 (92.8, 100.5), 111.1 (104.6, 115.6), 112.2 (106.7, 117.9), respectively similar after adjustment for age, body mass index, smoking status, alcohol intake and blood FFA level (one-way ANCOVA p=0.008, linear p=0.010).</p> <p><i>Conclusion:</i> We found a linear and positive relationship between C3 and liver fat content. Present findings may implicate hepatocytes injury have been already present with accumulation of triacylglycerol.</p>	