

## Association of periodontal status with liver abnormalities and metabolic syndrome

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### 論文審査の結果の要旨

Previous studies suggested an association between periodontal status and liver abnormalities. However, it has not been described in relation to metabolic syndrome (MetS), which often coexists with non-alcoholic fatty liver disease. This study examined the association of the combination of liver abnormality and MetS with periodontal condition in Japanese adults, based on the level of alcohol consumption. In 2008, 4,207 males aged  $45.4 \pm 8.9$  years and 1,270 females aged  $45.9 \pm 9.7$  years had annual workplace health check-ups at a company in Japan. Periodontal status was represented as periodontal pocket depth at the mesio-buccal and mid-buccal sites for all teeth. Alanine aminotransferase (ALT), and metabolic components were examined. Multiple linear regression analysis showed a significant association between deep pocket depth and the coexistence of elevated ALT and MetS in males with low alcohol consumption. Females showed no such relationship. In conclusion, the association between periodontal condition and the combination of elevated ALT and MetS was confirmed in males. That is, a clear association between liver abnormalities and periodontal condition was seen in male subjects with no or low alcohol consumption and MetS, providing new insights into the connection between liver function and periodontal health.

This research contains novel findings, and therefore, this paper deserves a doctor of philosophy degree (Dental Science) conferment.