Effects of lactoferrin on liver functions in fat diet mice

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[Introduction]

Lactoferrin (LF) is an iron-binding protein contained in breast milk, particularly colostrum, and is also contained in neutrophils. In this report, we examined the effects of LF on liver function of high fat diet mice.

[Methods]

Six-week-old male ICR mice were used and divided into 3 groups. In group 1, normal food (CE-2: CLEA Japan) was given and 3 g of fat meal (HFD-32: Japan Clea) was given a day in groups 2 and 3. Tap water was orally administered to groups 1 and 2 in a volume of 10 mL/kg. 100 mg/kg of LF (provided from NRL Pharma) was orally administered to groups 3 at a dose of 10 mL/kg. 10 weeks after administration, visceral fat was measured.

[Results and Summary]

Plasma GOT and GPT were determined by Transaminase CII-Test Wako kits (Japan, Osaka). And the results obtained the significant suppression of increases of visceral fat and in LF group, although a significant increase was observed of fat feeding intake group. In addition, as a result of measurement of GOT and GPT in plasma, the possible improvement of liver functions can be seen by administration of LF as compared with fat meal. These results suggest that LF significantly suppresses the visceral fat induced by high fat diet due to the modulation of liver function.