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Oral Sessions

Copper chelater cuprizone inhibited high-fat diet induced adiposity.

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[Introduction] With the increase of obese and diabetic patients, anti-obesity drugs which decrease fat content without muscle atrophy are expected. In obese or diabetic patients, serum copper concentration was reported to increase compared with that in healthy subjects. However, it is still unknown whether the lowering of serum copper levels has anti-obese effects. Therefore, we investigated the effects of copper chelator, cuprizone on high fat diet (HFD)-induced obesity in mice model.

[Method] We administered cuprizone (0.2%w) mixed in food pellet. Mice fed (1) normal chow (NC), (2) NC with cuprizone, (3) HFD or (4) HFD with cuprizone for 4 weeks, and then metabolic parameters were obtained.

[Results] Serum copper level was decreased in both cuprizone groups. Cuprizone significantly decreased the body weight extensively in HFD, but slightly in NC fed mice, without changes of food intake. Interestingly, cuprizone specifically decreased 60% of epididymal and inguinal fat weights, but not liver and muscle (soleus and gastrocnemius) weights, only in HFD. Furthermore, HFD-induced glucose intolerance (ipGTT) and insulin resistance (ITT) were significantly improved by cuprizone

[Conclusion] Cuprizone inhibited HFD-induced adiposity via the decreased amount of fat depot.