A LATE POSTPRANDIAL TRIGLYCERIDEMIA PATTERN IN WISTAR RATS DIFFERS FROM THAT IN HUMANS

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Introduction: Wistar rats are experimental models frequently used in lipid metabolism research but the information on their oral fat tolerance is scarce.
Objective To establish the postprandial triglyceridemia response pattern in adult Wistar rats and to compare it with that observed for humans.
Methods: Twenty-one 12h-fasted Wistar male rats (7-8 weeks) had blood samples collected before the fat load and at 2, 4, 6, 8 and 10 hours after the intake by gavage of 0,23g fat/100g body weight, as dairy cream (16% fat, 4% carbohydrate, 4% protein). Thirty-one healthy men (18-45 y) received, after an overnight fast received a lactose-free milkshake liquid meal (57% carbohydrate, 13% protein 25% fat) providing 40 g fat/m^2 of body surface. Blood samples were collected at 0h and at 2, 4, 6 and 8h after the meal. Serum triglycerides (TG) were determined by an enzymatic method (Roche Diagnostics, Basel, Switzerland).
Results: The postprandial triglyceridemia response in humans showed a 4h TG peak after the ingestion of the fat meal (100% increase from baseline values) and a TG reduction up to 8h; surprisingly Wistar rats presented a bimodal delayed 6 and 10h TG peak (129% increase from baseline values) that persisted up to 10h.
Conclusion: The postprandial triglyceridemia pattern in rats suggested features of the plurimetabolic syndrome.
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