Animal care and use statement

In the study of"Effects of sleeve gastrectomy with jejuno-jejunal or jejuno-ileal loop on glycolipid metabolism in diabetic rats", the animal protocol was designed to minimize pain or discomfort to the animals. Seventy 8-weeks-old male Wistar rats were individually housed in independent ventilated cages. After 1 week's adaptive feeding, all rats were provided with HFD for 4 weeks to induce insulin resistance.After 12 h fasting, all rats were treated with a single injection of nicotinamide (170 mg/kg i. p.). Fifteen minutes later, a single injection of streptozotocin (65 mg/kg; Sigma, St Louis, MO, USA) was administered to induce a diabetic state. Two weeks later, 39 rats were selected as diabetic rats with fasting blood glucose level ≥ 7.1 mmol/L or blood glucose 2 h after gavage ≥11.1 mmol/L during oral glucose tolerance test (OGTT), and the rats with extreme hyperglycemia (blood glucose level > 16.7 mmol/L) were excluded from the study. The diabetic rats were divided into the SHAM (n = 10), SG (n = 10), SG-JJ (n = 10), and SG-JI (n = 9) groupsrandomly and the surgical process was performed accordingly.All diabetic rats were continuously provided with HFD chow after low-residue diet feeding for 72h post-operation. OGTT homeostasis model assessment of insulin resistance (HOMA-IR), fasting serum triglyceride, cholesterol, ghrelin, body weight, calorie intake, secretion of GLP-1 and insulin after gavage (1 g/kg) were measured at baseline, and 2, 12 and 24 weeks after surgery. All rats were euthanized by chloral hydrate overdose (intraperitoneal injection, 15mL/kg10% chloral hydrate) for tissue collection.

The animal protocol wasreviewed and approved by theEthics Committee on Animal Experiment of Shandong UniversityQilu Hospital (IACUCprotocol number: DWLL-2015-014).

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