

Hepatoprotective effects of semaglutide and tirzepatide therapy in the GAN diet-induced obese and biopsy-confirmed mouse model of MASH

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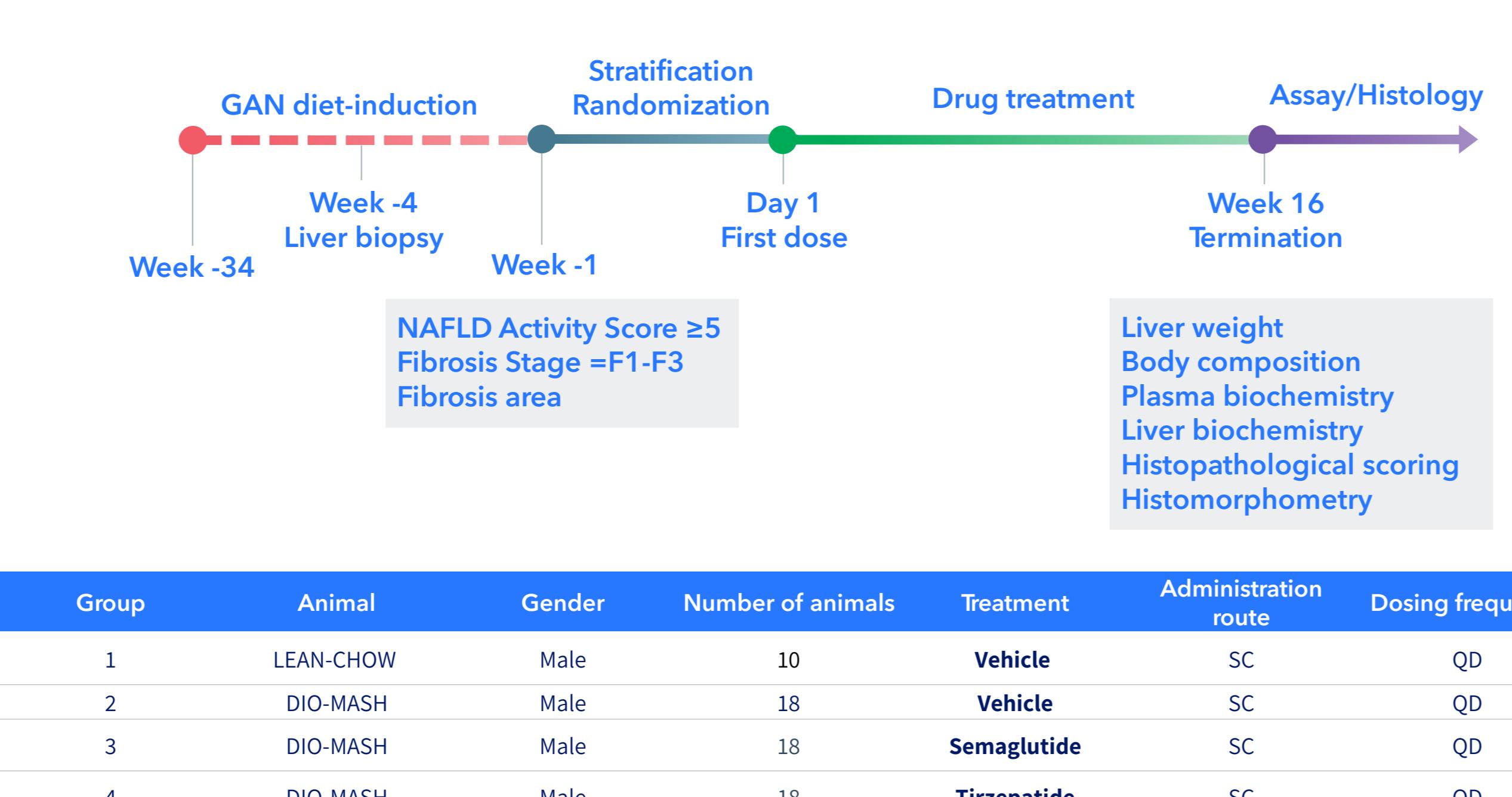
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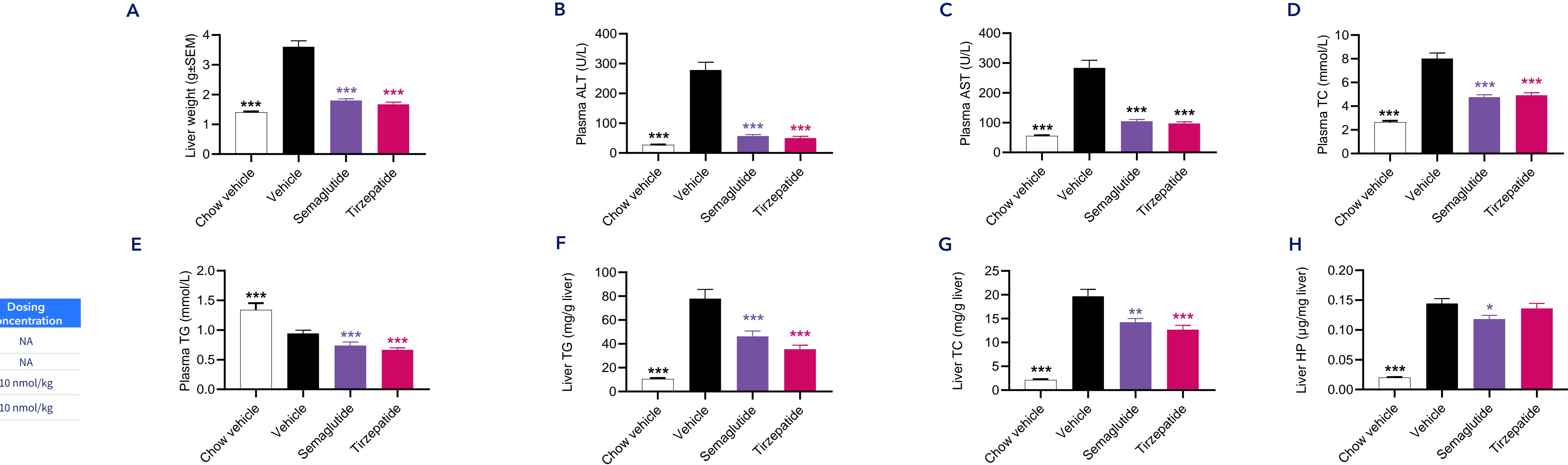
Background & Aim

Semaglutide (GLP-1 receptor agonist) and tirzepatide (dual GLP-1 receptor and glucose-dependent insulinotropic polypeptide (GIP) receptor agonist) are in late-stage clinical development for MASH. The present study aimed to compare metabolic, biochemical, histological outcomes of semaglutide and tirzepatide monotherapy in the translational GAN diet-induced obese (DIO) and biopsy-confirmed mouse model of MASH with liver fibrosis.

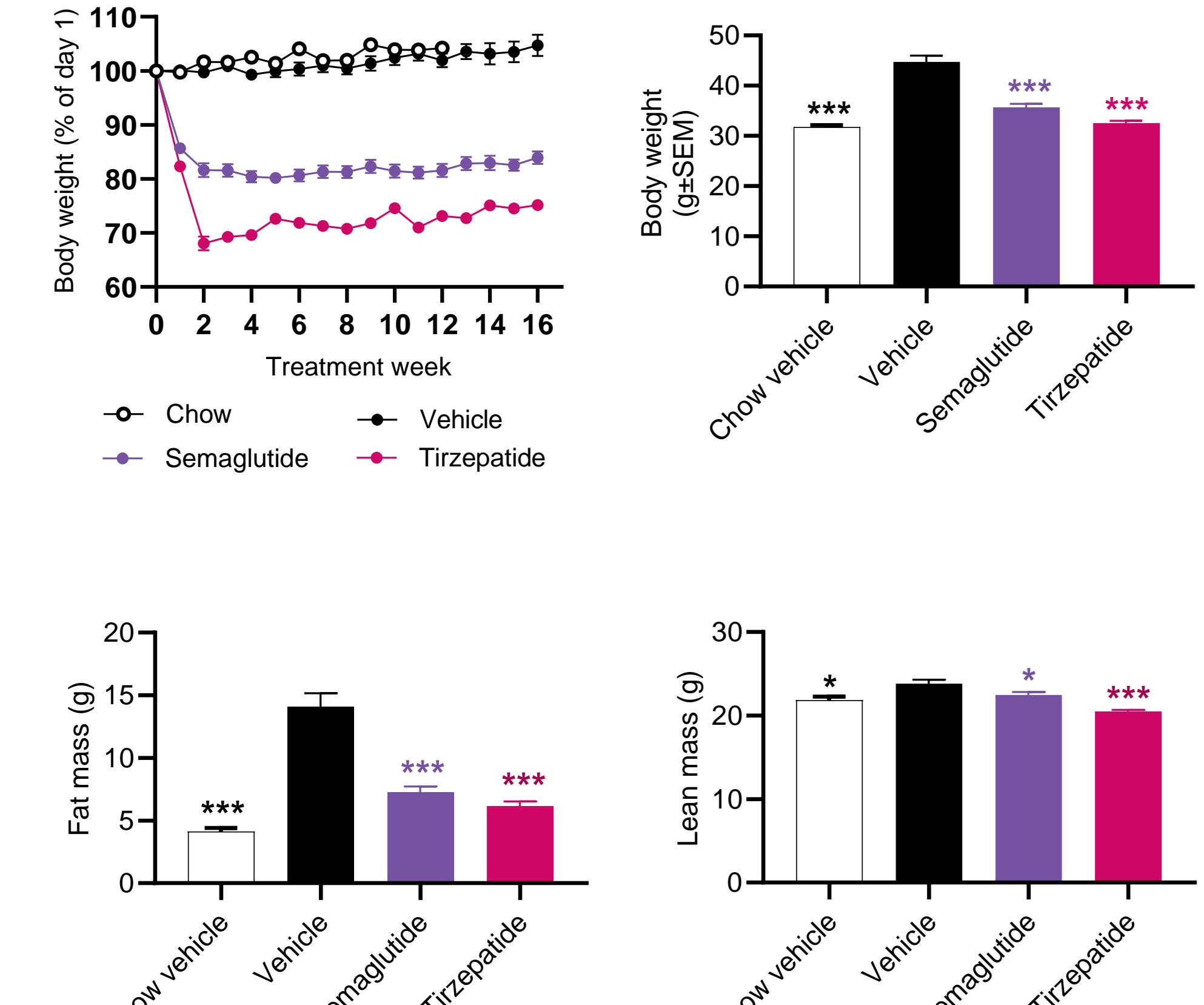
1 Study outline



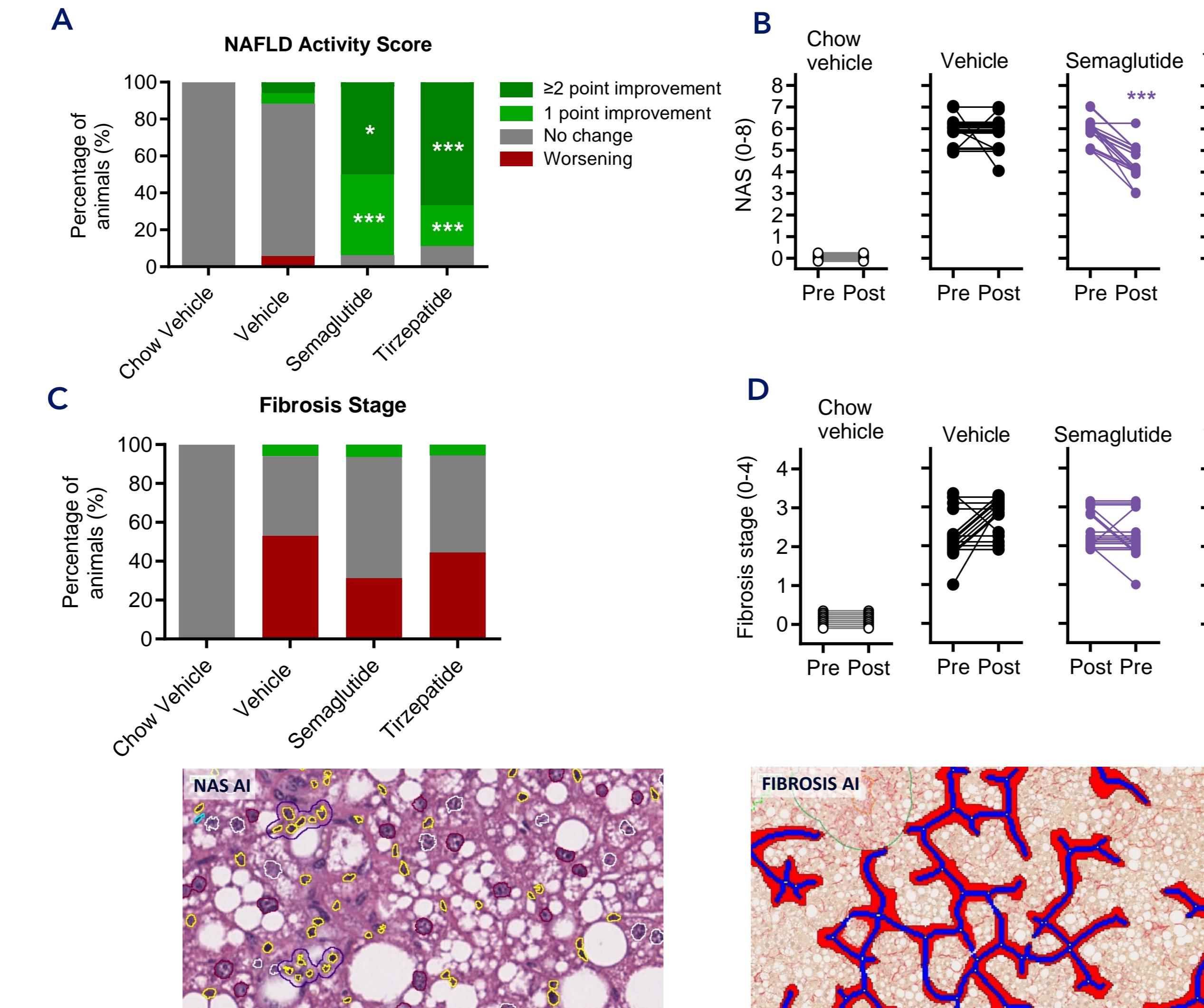
2 Metabolic and biochemical parameters



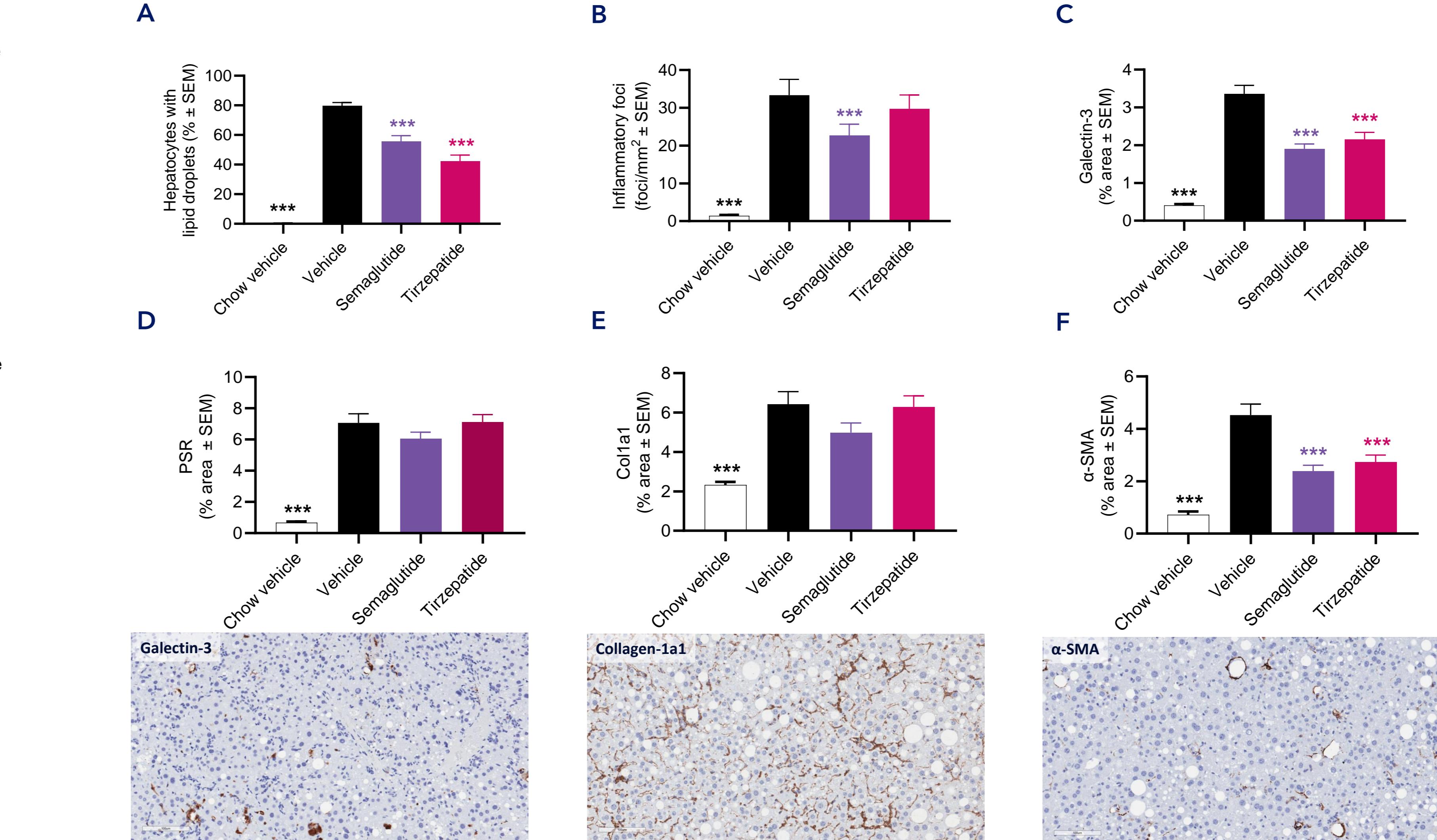
3 Body weight and composition



4 NAFLD Activity Score and Fibrosis Stage



5 Histological markers of steatosis, inflammation and fibrosis



Conclusion

- + Semaglutide and tirzepatide induce robust weight loss (17% and 25% respectively) and improve adiposity
- + Both compounds decrease lean mass
- + Semaglutide and tirzepatide improve transaminases, plasma/liver total cholesterol and triglyceride levels
- + Semaglutide and tirzepatide promote 2-point improvement in NAS
- + Benefits on NAS are supported by reduced quantitative histological markers of steatosis and inflammation
- + Semaglutide and tirzepatide shows no effect on fibrosis stage while suppressing fibrogenesis (α-SMA)



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