THU-Pharmacology-Homework-4

He Yuhui 2022012050

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1 Choice Qustion

1 d.

Glucagon promotes the glycogenolysis in liver.

2 b.

3 a.

4 a.

5 d.

6 b.

2 Subjective item

2.1 Type 1 diabetes VS Type 2 diabetes

Table 1: The difference between Type 1 and 2 diabetes

	Type 1	Type 2
Etiology	Autoimmune destruction of panceatic β-cells	Insulin resistence, with inadequate β-cell function to compensate
Insulin levels	Absent or negligible	Typically higher than normal
Insulin levels	Absent or negligible	Decreased
Age of onset	Typically < 30 years	Typically > 40 years
Acute complications	Ketoacidosis	Hyperglycemia

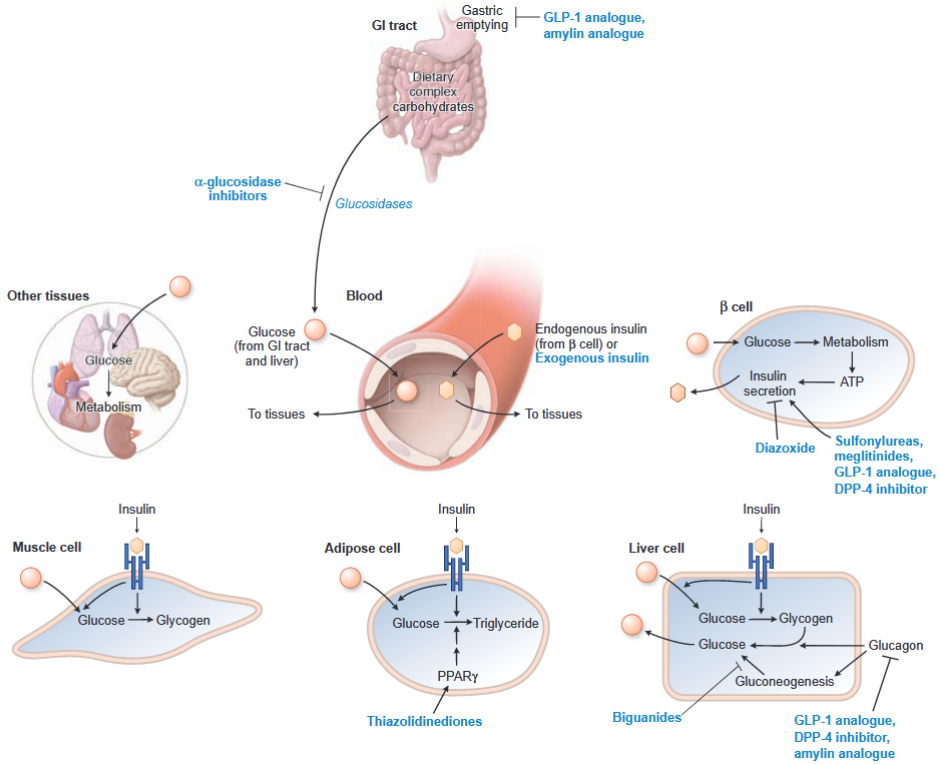
2.2 The functions of important harmones

Table 2: The functions of important harmones

Harmones	Function
insulin	Promotes uptake of glucose, amino acids, and fatty acids from blood into cells for storage as glycogen, protein, and triglyceride
glucagon	Promotes glycogenolysis and gluconeogenesis in liver
GLP-1	Increases β-cell mass and insulin secretion. Delays gastric emptying. Decreases food intake and glucagon secretion
somatostatin	Decreases release of insulin and glucagon. Decreases GI tract motility and hormone release. Decreases growth hormone secretion
amylin	Suppresses glucagon release. Slows gastric emptying. Decreases food intake

2.3 The interaction of these hormones

Figure 1: The interaction of these hormones



2.4 The mechanism of different anti-diabetic drugs

Figure 2: The mechanism of sulfonylureas

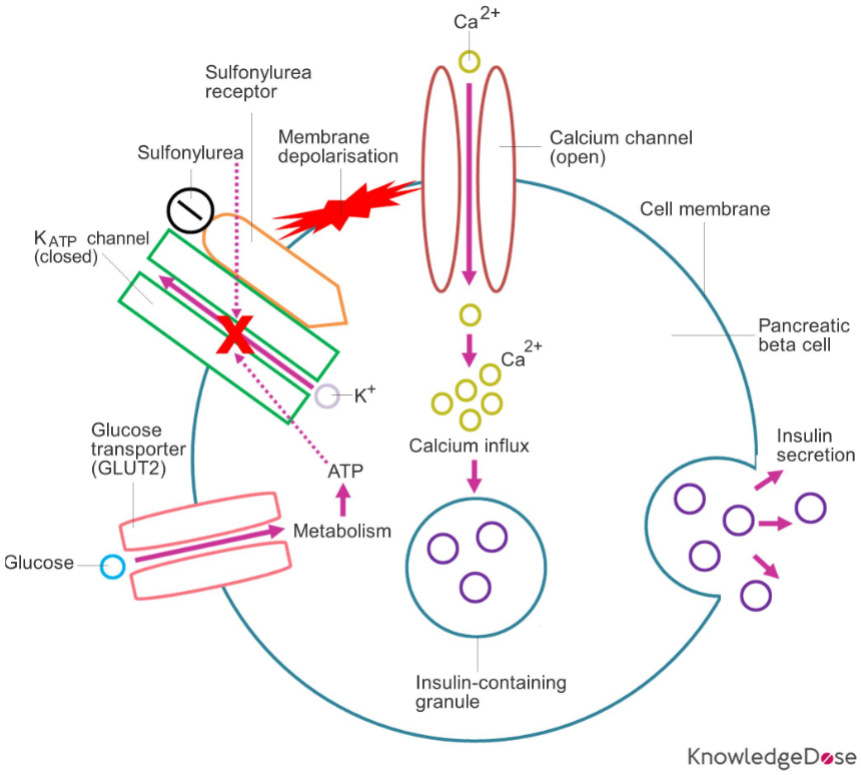


Figure 3: The mechanism of GLP-1R agonists

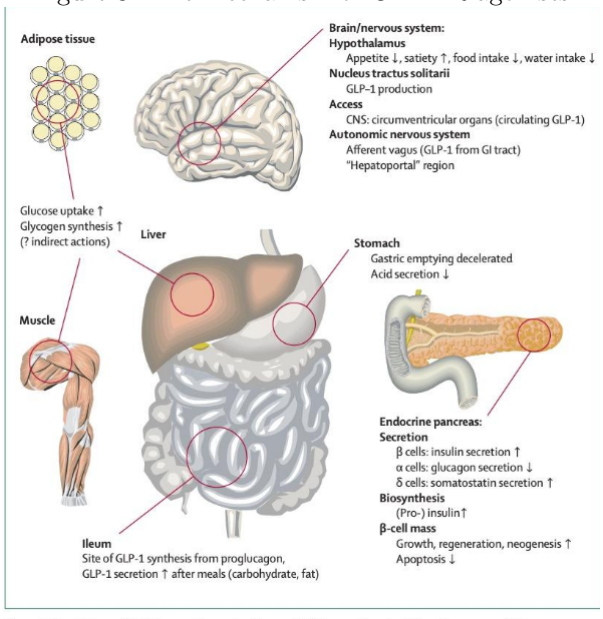


Figure 1: **Physiology of GLP-1 secretion and action on GLP-1 receptors in different organs and tissues**

Figure 4: The mechanism of DPP-4 inhibitors

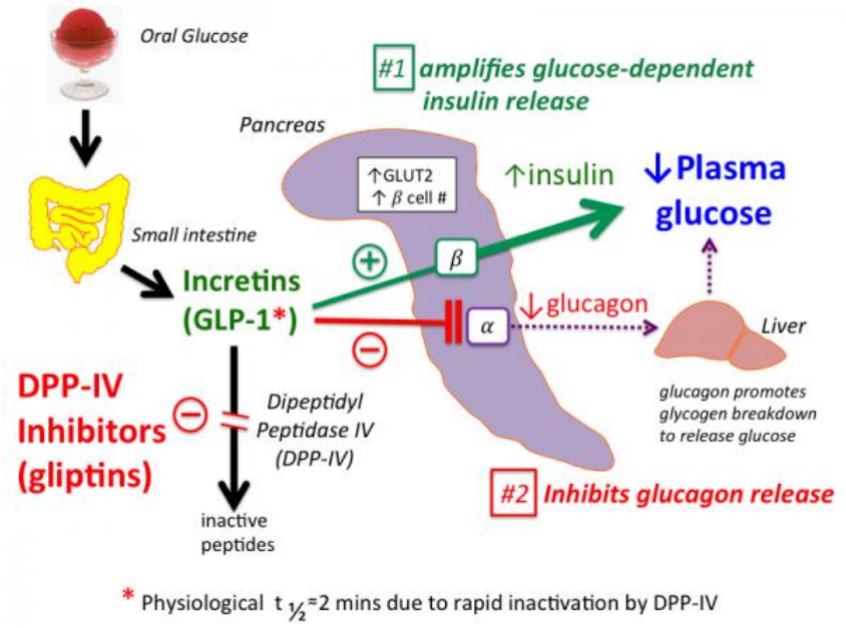


Figure 5: The mechanism of SGLT2 inhibitors