Glucagon – Like Peptide 1 (GLP 1)

Prelims: *Current events of national and international importance*

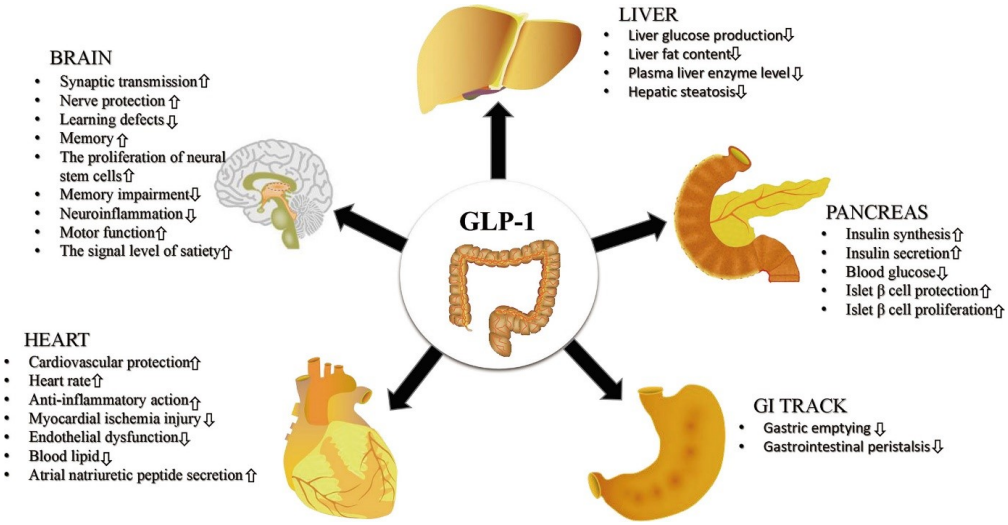
Why in News?

Recently, nearly 12% of Americans have used GLP-1 drugs for weight loss, including about one-fifth of women aged 50 to 64, according to a journal report.

- **Glucagon – Like Peptide 1 (GLP 1) –** It is a naturally occurring peptide hormone.
- It is water soluble molecules ranging for a few 200 amino acids in length.
- It is *incretin hormone and a neurotransmitter*.

> ***Incretin hormones*** *are a group of gut hormones that play a crucial role in regulating blood glucose levels after eating.*
>
> ***Neurotransmitter*** *is a chemical messenger that transmits signals between neurons or from neurons to other cells like muscle or gland cells.*

- **Secreted from** – The small intestine and from the hindbrain (regulating vital functions and coordinating movement).
- It is produced in the gut by enteroendocrine L-cells after we eat a meal.
- **Features** – Natural GLP-1 is so short-lived.
- GLP-1 works for just a few minutes, so after you eat a meal and GLP-1 is secreted naturally, it gives an immediate effect that lasts maybe 30 minutes.
- To last longer in the body, GLP-1 is attached to fatty acids, which help the drug stick to a blood protein (albumin), which carries
  - Carries it around the body
  - Protects it from being broken down too quickly.
- **Functions** - Travels to the pancreas, where it helps to ***regulate our blood sugar*** by increasing insulin and decreasing glucagon. It helps control body weight.
- GLP-1 *binds to in many organs* in the body, also has beneficial effects in many of these organs, such as the kidney, liver, and cardiovascular system.
- It is chopped up by metabolic enzymes known as *DPP-4* and cleared by the kidneys.



- **Blood glucose-dependent** – The GLP-1 start to act only if the blood glucose is elevated.
- **Impacts** - The brain associated with control of hunger and satisfaction, to effectively tell us that we have had enough to eat and need to stop eating.

References

1. Medicalxpress| GLP-1
2. The Indian Express| Glucagon – Like Peptide 1 (GLP 1)

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