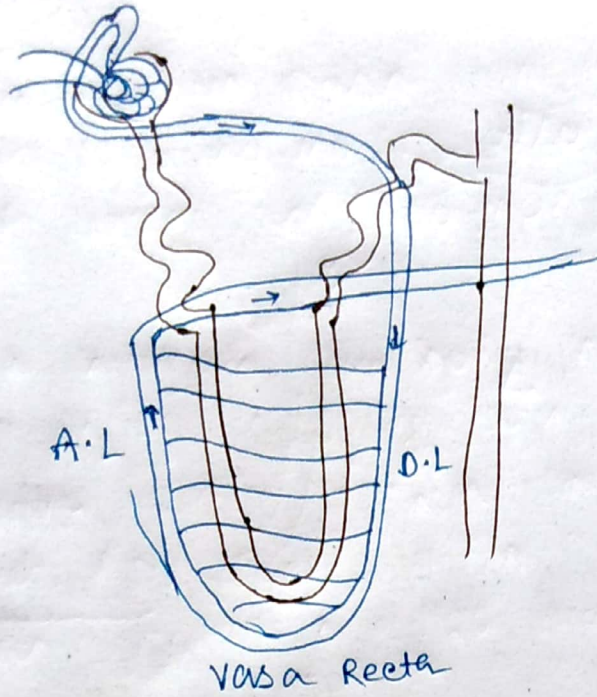


▣ Vasa Recta : \Rightarrow (VR)



\hookrightarrow vasa recta is a straight and long capillaries that run deep into the medulla.

\hookrightarrow It run parallel to the loop of Henle.

\hookrightarrow The efferent arteriole form this VR in the ~~m~~ juxtamedullary nephron.

\hookrightarrow It represents the capillary bed of the juxta medullary nephron.

\checkmark It have an ascending limb (A.L) and one descending limb.

\hookrightarrow Functions : \Rightarrow

i) \hookrightarrow V.R regulates the dilution and concentration of urines.

ii) \hookrightarrow It returns some water and solutes to the blood circulation.

iii) \hookrightarrow It provides some substances to tubules for secretion.

iv) \hookrightarrow It also provides nutrients to the nephron.

Juxtaglomerular Apparatus ②

■ Juxtaglomerular complex is a specialised organ situated near glomerulus of nephron. Hence the name juxtaglomerular apparatus.

■ There are 3 types of structures present that forming this complex are —

i) Macula densa

ii) Extraglomerular mesangial cell / Lacis cell

iii) JG cells.

i) Macula densa : ⇒

✓ It is a specialised renal tubular epithelial cell. And it is located in DCT.

✓ It is present in very close contact with JG cell.

✓ It acts as an chemoreceptors.

✓ It is situated bⁿ the afferent and efferent arteriole.

✓ It is stimulated by low sodium (Na^+) concentration.

✓ It is formed by tightly packed cuboidal epithelial cell.

ii) Extraglomerular mesangial cell : ⇒

✓ situated in the 'J' region bounded by afferent, efferent arterioles and macula densa.

✓ They secrete Prostaglandin and cytokines.

i) Glomerular Mesangial cell : ⇒ ③

- ✓ situated between the glomerular capillaries are called and glomerular mesangial cells.
- ✓ It supports the glomerular capillary loops by surrounding the capillaries in the form of a cellular network.
- ✓ It regulates the glomerular filtration by contractile property.
- ✓ It is phagocytic in nature.
- ✓ These cells also secrete glomerular interstitial matrix, prostaglandin and cytokines.

ii) JG cells : ⇒

- ✓ specialized smooth muscle cells situated in the wall of Afferent arteriole just below before it enters Bowman's capsule
- ✓ Present in
- ✓ It acts as Baro Receptor.
- ✓ It is stimulated by hypovolemic condition.
- ✓ It synthesizes, stores and releases Renin.

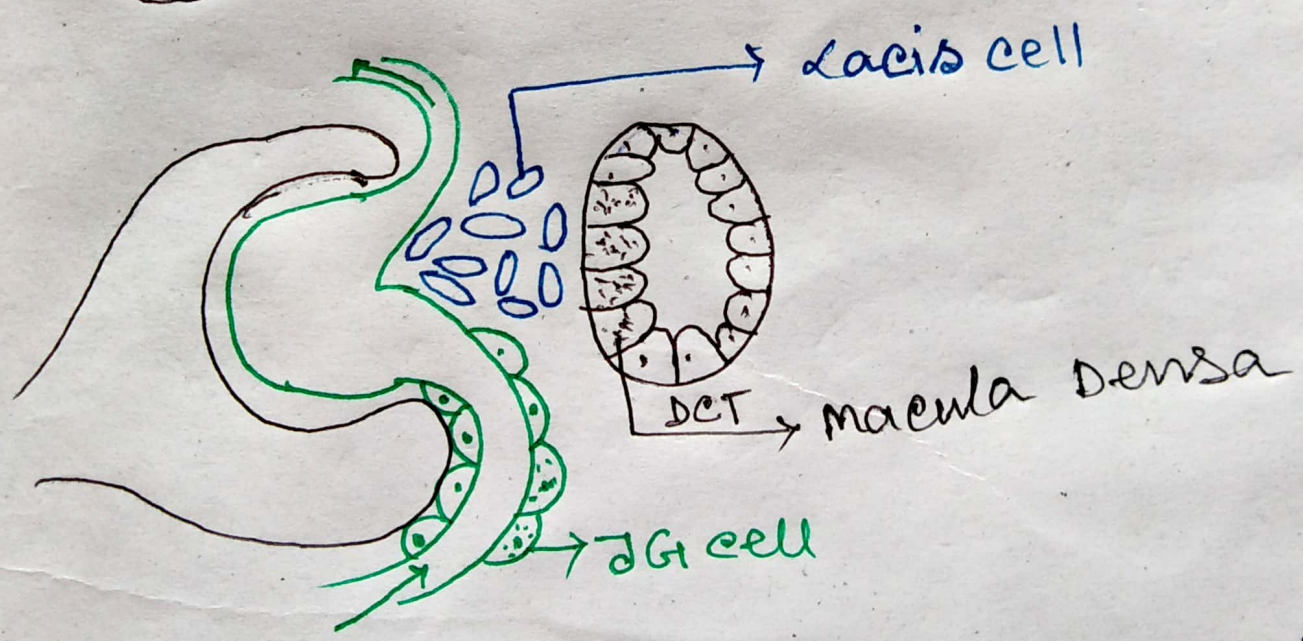
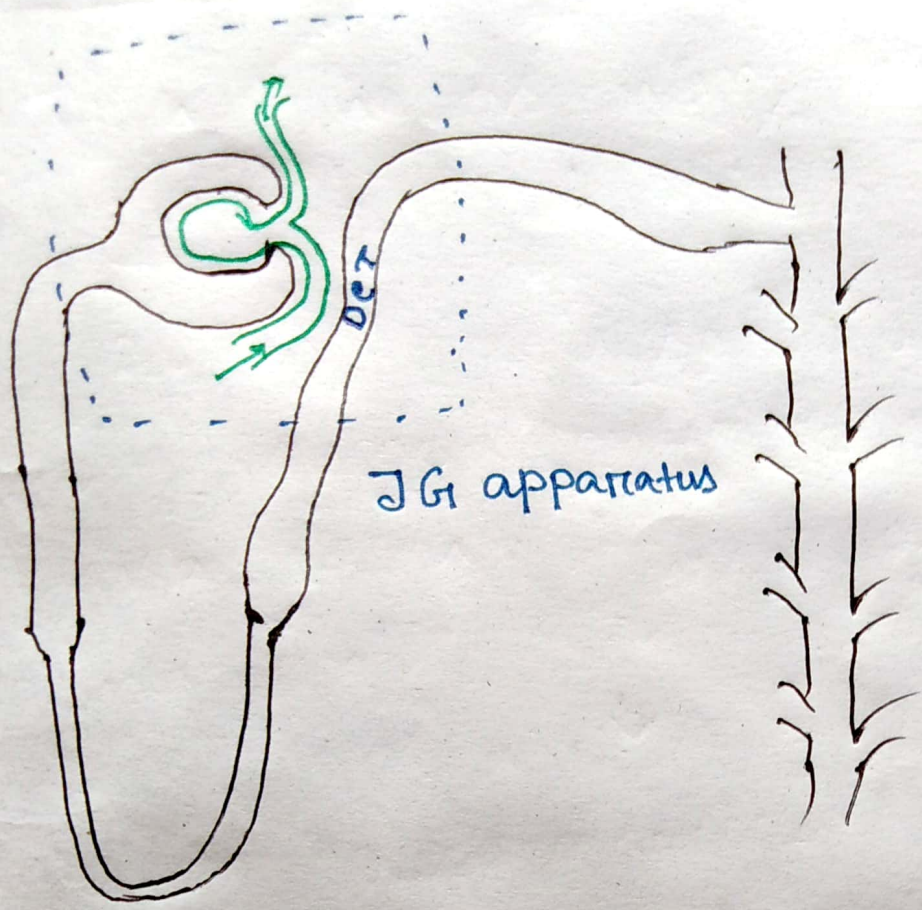


Fig → Juxtaglomerular apparatus.