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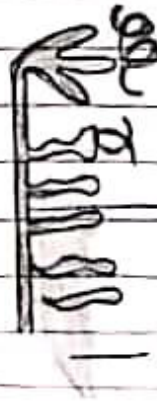
Question :- Evolution and fate of kidney ka chitra sahit varnan kare?

Answer :-

Kidney development, or nephrogenesis, describes the embryo-logic origins of the kidney, a major organ in the urinary system. This article covers 3 part developmental process that is observed in most reptiles, birds and mammals, including humans. Nephrogenesis is often considered in the broader context of the development of the urinary and nephroductive organs.

Phases :-



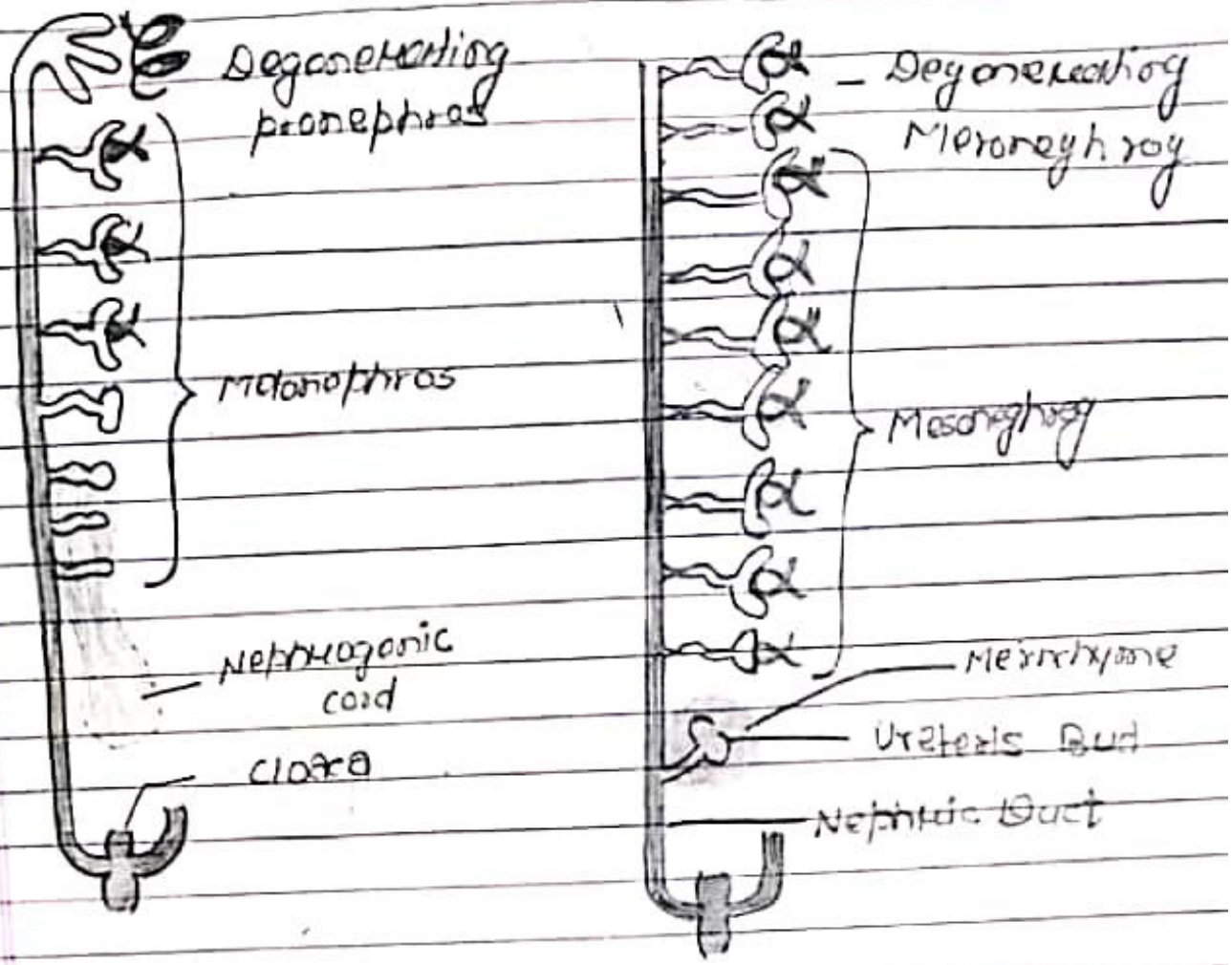


Diagram shows the sequential development and degeneration of the pronephros and mesonephros, and the induction of the ureteric bud and metanephric mesenchyme during kidney development in mammals.

The development of the kidney proceeds through a series of successive phases, each marked by the development of a more advanced kidney: the archinephros,

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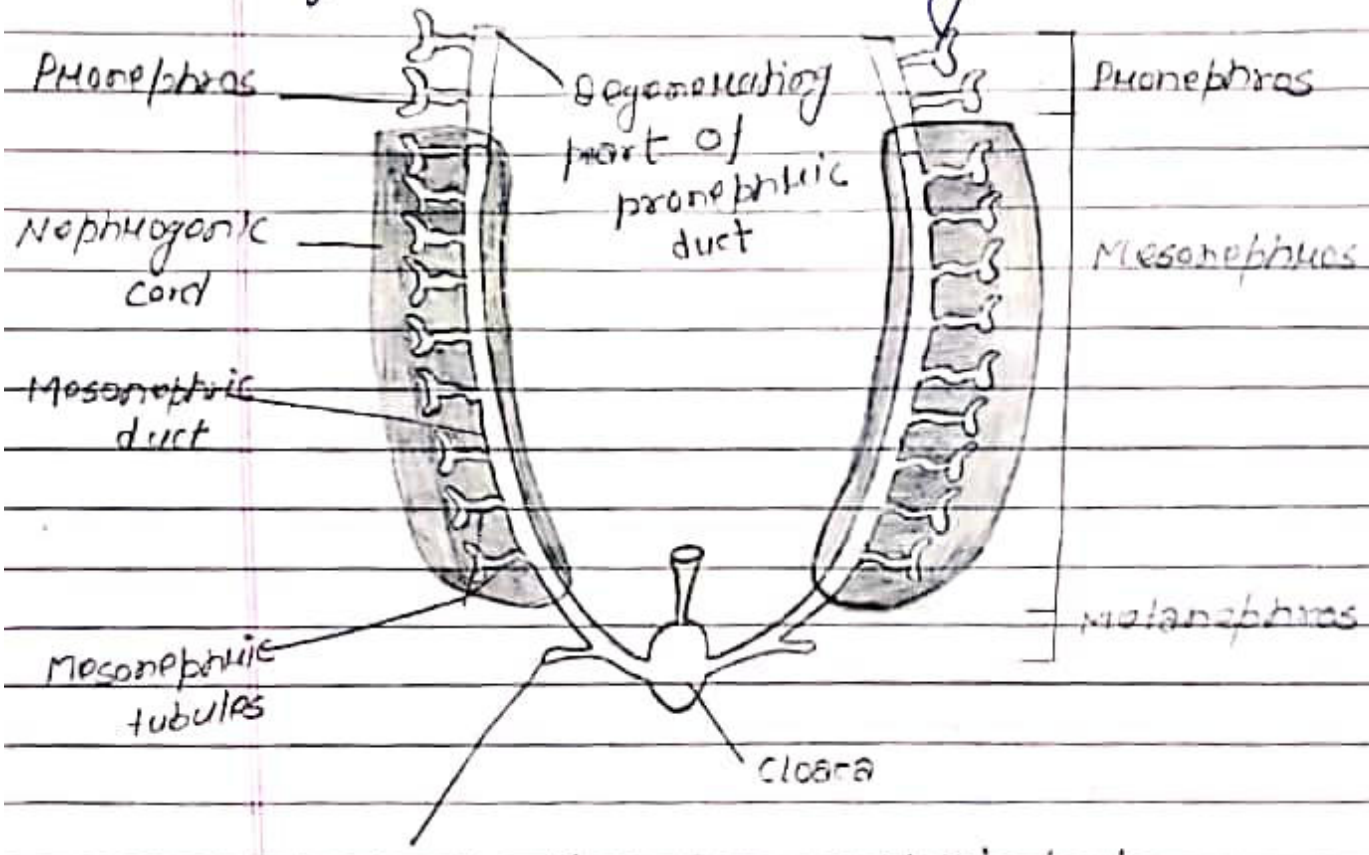
pronephros, mesonephros, and metanephros. The pronephros is the most immature from of kidney, while the metanephros is most development. The metanephros persists as the definitive adult kidney.



Archinephros :—

The archinephros is considered as hypothetical or primitive kidney.

Pronephros :—

Main Article : Pronephros

Date 24.05.2020

The pronephros develops in the cervical region of the embryo. During approximately day 20 of human gestation, the paired pronephric appear toward the cranial end of the intermediate mesoderm. In this region, epithelial cells arrange themselves in a series of tubules called nephrotomes and join laterally with the pronephric duct. This duct is fully contained within the embryo and thus cannot excrete excrete. Filtered material outside the embryo [and thus cannot excrete] therefore the pronephros is considered nonfunctional in humans.

Mesonephros :-

The development of the pronephric duct proceeds in a cranial - to - caudal direction. As it elongates caudally, the pronephric duct induces nearby intermediate mesoderm in the thoracolumbar area to become epithel tubules called mesonephric tubules. Each mesonephric tubule receives a blood supply from a branch of the aorta, ending... in

a capillary tuft analagous to the glomerulus of the definitive nephron. The mesonephric tubule forms a capsule around the capillary tuft, allowing for filtration of blood. This filtrate flows through the mesonephric tubule and is drained into the continuation of the pronephric duct, now called the mesonephric duct or Wolffian duct. The nephrotome s of the pronephros degenerate while the mesonephric duct extends towards the most caudal end of the embryo, ultimately attaching to the cloaca. The mammalian mesonephros is similar to the kidneys of aquatic amphibians and fishes.

During the fifth week of gestation, the mesonephric duct develops an outpouching, the ureteric bud, near its attachment to the cloaca. This bud, also called the metanephrogenic diverticulum, grows posteriorly and towards the head of the embryo.