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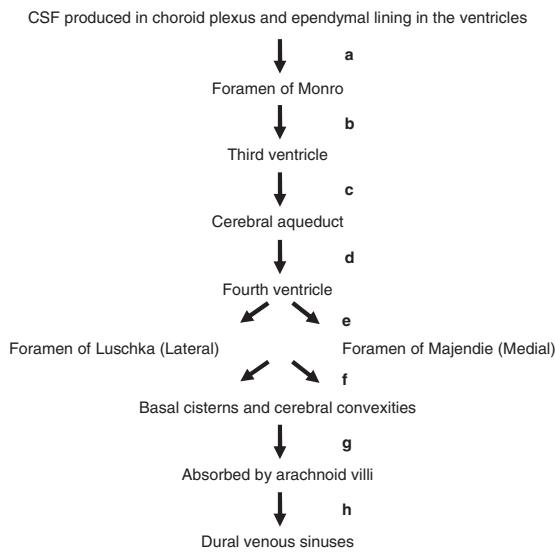
The word “iatrogenic” comes from the Greek roots “iatros” meaning “the healer or physician” and “gennan” meaning “as a product of.” Hence “iatrogenic” means due to the action of a physician or a therapy and “iatrogenic devices” are any objects, tubes, catheters and lines introduced or placed in a patient for therapy or diagnosis or to serve a particular purpose.

In this chapter we will review CSF shunts, endotracheal tubes (ETTs) and feeding tubes (FTs), intravenous and intra-arterial catheters, cardiac devices and orthopedic devices.

CSF shunts

CSF flow dynamics

Cerebrospinal fluid (CSF) is an ultra-filtrate of plasma and is produced by the choroid plexus (CP) of the lateral and fourth ventricles and the ependymal lining of the ventricles. CSF flows from the lateral ventricle through the foramen of Monro into the third ventricle and then into the fourth ventricle



Flowchart 12.1 CSF flow dynamics.

through the sylvian aqueduct. The CSF exits the ventricular system via the foramina of Luschka (lateral) and Magendie (medial) situated in the fourth ventricle. CSF then ascends into the basal cisterns and around the cerebral convexities where it is reabsorbed by the arachnoid villi which project into the dural venous sinuses (Flowchart 12.1; Figure 12.1).

Hydrocephalus is defined as excess volume of CSF and is caused by an obstruction to the normal CSF flow dynamics described above. It is primarily caused by obstruction to the flow of CSF within the ventricular system.

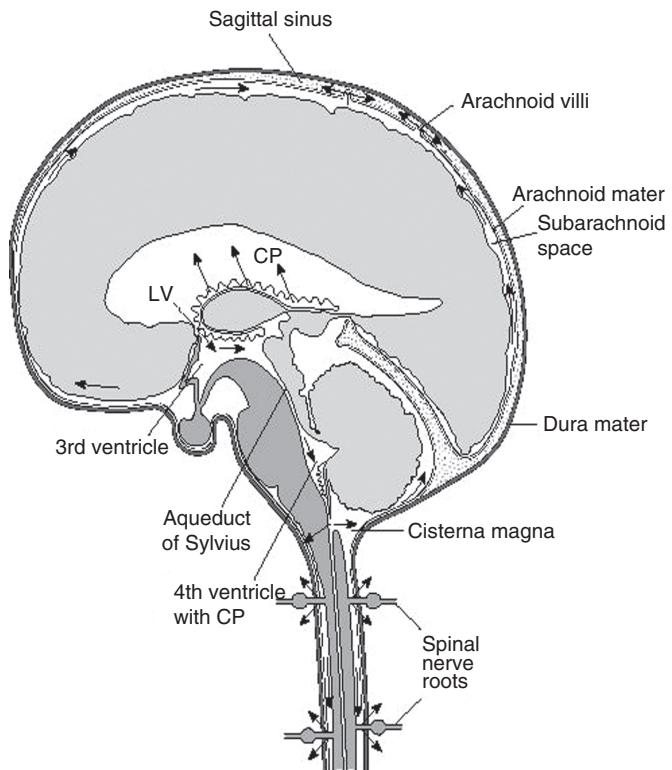


Figure 12.1 CSF flow dynamics. Schematic diagram shows flow of CSF, as described in the text. CP = choroid plexus; LV = lateral ventricle.