In vertebrates the **gallbladder** (*cholecyst, gall bladder*) is a small organ that aids digestion and stores bile produced by the liver. In humans the loss of the gallbladder is usually easily tolerated.
**Human anatomy**

The gallbladder is a hollow system that sits just beneath the liver.[3] In adults, the gallbladder measures approximately 8 cm in length and 4 cm in diameter when fully distended.[4] It is divided into three sections: fundus, body and neck. The neck tapers and connects to the biliary tree via the cystic duct, which then joins the common hepatic duct to become the common bile duct.

**Microscopic anatomy**

The different layers of the gallbladder are as follows:[5]

- The gallbladder has a simple columnar epithelial lining characterized by recesses

**Function**

The adult human gallbladder stores about 50 millilitres (1.8 imp fl oz; 1.7 US fl oz) of bile, which is released into the duodenum when food containing fat enters the digestive tract, stimulating the secretion of cholecystokinin (CCK). The bile, produced in the liver, emulsifies fats in partly digested food.

After being stored in the gallbladder, the bile becomes more concentrated than when it left the liver, increasing its potency and intensifying its effect on fats.

In 2009, it was demonstrated that the gallbladder removed from a patient expressed several pancreatic hormones including insulin.[6] This was surprising because until then, it was thought that insulin was only produced in pancreatic β-cells. This study provides evidence that β-like cells do occur outside the human pancreas. The authors suggest that since the gallbladder and pancreas are adjacent to each other during embryonic development, there exists tremendous potential in derivation of endocrine pancreatic progenitor cells from human gallbladders that are available after cholecystectomy.

**In other animals**

Most vertebrates have gallbladders (exceptions include the horse, deer, and the rat), whereas invertebrates do not. However, its precise form and the arrangement of the bile ducts may vary considerably. In many species, for example, there are several separate ducts running to the intestine, rather than a single common bile duct, as in humans. Several species of mammals and birds lack a gallbladder altogether, as do lampreys.[7]

**See also**

- Gallbladder disease
- Gallbladder polyp

**References**

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