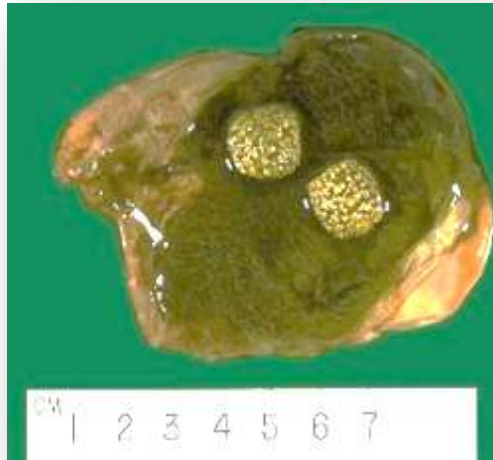

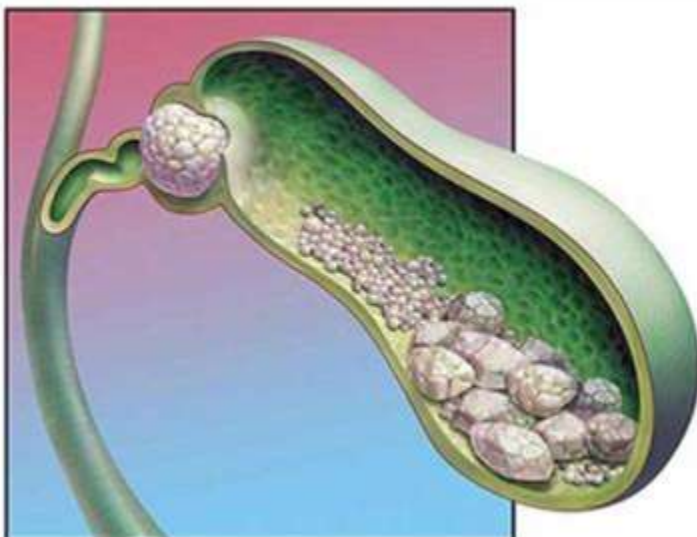


XVIII. Diseases of Liver, G. Bladder, Pancreas & Peritoneum
G. Bladder





Gall Stones (cholesterol)		III- 7. 3231	
Gall bladder:	<ul style="list-style-type: none"> • Shows evidence of mild cholecystitis • Contains a stone 		
	The stone:	<ul style="list-style-type: none"> • Solitary • Large • Round-to-ovoid • Yellowish-white 	
	Cut surface:	<ul style="list-style-type: none"> • Glistening • Radiated Whitish-yellow • Soft in consistence 	



N.B.:

- This is a pure cholesterol stone.
- Occasionally, it may initiate formation of a mixed stone.
- It is usually silent (symptomless); and, is not opaque to X-rays.
- The gall bladder:
 - Either is normal (with no gross features of inflammation).
 - Or it reveals Cholesterolosis (or slight evidence of cholecystitis).
- **Formation is favored by**
 - Pregnancy;
 - High cholesterol in bile and in blood;
 - Stasis of bile in gall bladder;
 - A medium poor in protein;
 - Dietary disturbances (as in diabetes mellitus).

Gall Stone (pigmented) III- 7.323/2

Gall bladder:	Shows gall stones	
	Gall stones: <ul style="list-style-type: none">• Multiple• Small• Irregularly oval• Friable• Pigmented black	
	Cut surface:	Homogeneous (in general) Dark brownish-black

- *Pigmented stones are made up of calcium bilirubinate.*
- *The gall bladder usually does not show gross changes.*
- *The stones are due to increased haemolysis of red blood cells.*
- ***These stones may complicate:***
 1. *Haemolytic jaundice.*
 2. *Certain anaemias.*
 3. *Increased bilirubin-concentration of bile.*
- *Their formation is favoured by precipitation of the bile-pigment in a non-infected gall bladder but where bile stasis is present.*
- *The very small stones may enter the biliary ducts - obstruction or/and biliary colic.*

Gallstones + Chronic Cholecystitis



Cholelithiasis (Gallstones)



CHOLESTEROL (YELLOW-WHITE) PIGMENT (MULBERRY-SHAPED) CALCIUM CARBONATE (HARD)



MIXED GALLSTONES (MULTIFACETED) COMBINED GALLSTONES (SMOOTH-SURFACED)

TYPE	FREQUENCY	COMPOSITION	GALLBLADDER CHANGES	APPEARANCE
1. <i>Pure gallstones</i>	10%	i) Cholesterol	Cholesterolosis	Solitary, oval, large, smooth, yellow-white; on C/S radiating glistening crystals
		ii) Bile pigment	No change	Multiple, small, jet-black, mulberry-shaped; on C/S soft black
		iii) Calcium carbonate	No change	Multiple, small, grey-white, faceted; C/S hard
2. <i>Mixed gallstones</i>	80%	Cholesterol, bile pigment and calcium carbonate in varying combination	Chronic cholecystitis	Multiple, multifaceted, variable size, on C/S laminated alternating dark-pigment layer and pale-white layer
3. <i>Combined gallstones</i>	10%	Pure gallstone nucleus with mixed gallstone shell, or mixed gallstone nucleus with pure gallstone shell	Chronic cholecystitis	Solitary, large, smooth; on C/S central nucleus of pure gallstone with mixed shell or vice versa