key points

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Gallstones form when there is an imbalance in the composition of bile resulting in precipitation of one or more of its components. Between 37 and 86% of gallstones are cholesterol-rich stones, 2-27% are pigment stones and 4-16% are mixed stones. Cholesterol-rich gallstones are more common in Europe and North America. This has been attributed to obesity and diets containing a high proportion of refined carbohydrates and fat. Low-calorie diets and rapid weight loss are also associated with the development of cholesterol-rich gallstones.

Gallstone disease increases with age. It is exceptionally rare in neonates and children but more common after the age of 40 years. Women have a higher prevalence of gallstones than men, which is attributed to exposure to the female sex hormones oestrogen and progesterone. Of those with gallstones, around 1 to 4% will develop symptoms annually. The majority of patients (> 80%) will remain asymptomatic throughout their lifetime and the likelihood of developing symptoms diminishes with time.

Liver function tests and an abdominal ultrasound should be offered to patients with symptoms suggestive of gallstone disease (e.g. abdominal pain, jaundice, fever). They should also be considered in patients with less typical but chronic abdominal or gastrointestinal symptoms. Abdominal X-ray and CT are of limited diagnostic utility as cholesterol-rich stones are typically radiolucent and may be impossible to detect by these imaging modalities.

Gallstones within a normal gallbladder and without symptoms do not need any specific treatment with the exception of a minority of groups who are at high risk of complications or malignancy. Patients with acute cholecystitis should be referred for laparoscopic cholecystectomy. It is generally advisable for this to be performed at presentation or after the acute cholecystitis episode has settled. Medical therapies such as extracorporeal shock wave lithotripsy or bile acid dissolution therapy are associated with much lower rates of clinical success compared with surgery.

In patients with acute pancreatitis and evidence of ongoing bile duct obstruction and/or cholangitis, endoscopic retrograde cholangiopancreatography (ERCP) and biliary sphincterotomy is recommended within 24-72 hours of the onset of symptoms.

Complications of gallstone disease are the most common reasons for non-gynaecological surgery during pregnancy. Gallstones are present in around 12% of pregnant women and complications such as ascending cholangitis and acute pancreatitis are associated with high rates of recurrence, exposing both fetus and mother to a risk of increased morbidity and mortality without intervention. However, several international case series have shown that ERCP and cholecystectomy where needed are safe during pregnancy. The BSG supports ERCP and laparoscopic common bile duct exploration in pregnant patients with symptomatic common bile duct stones.