Chronic Cholecystitis

**May be

(1) the sequel to repeated attacks of acute cholecystitis, but

(2) in most instances it develops without any history of acute attacks.

**Like acute cholecystitis it is almost always associated with GS

حكينا انه ب acute cholecystitis ٩٠ بالمية من حالات فيها GS والباقي بدون

برضه ال chronic ممكن ان تحدث with or without GS

BUT… **GS do not seem to have a direct role in the initiation of inflammation or the development of pain why ???

هل وجود الحصى اساسي لتكون بداية inflammation او development of pain ؟؟

because chronic acalculous (without presence of stones) cholecystitis causes symptoms & morphologic changes similar to those seen in the chronic calculous type.

يعني ال chronic cholecystitis سواء معها حصى او معها تكون الاعراض والمظاهر في GB متشابهة لذلك شو نتيجة ؟ الجملة يلي تحت

**Rather, supersaturation of bile predisposes to both forms (calculous & acalculous) chronic inflammation & in most instances, to stone formation.

الاشباع العالي او فوق الاشباع للكولسترول ب bile في كثير من الاحيان يؤدي الى التهاب وبرضه في كثير من الاحيان يؤدي الى تكون حصى

**Microorganisms, usually Escherichia coli & enterococci, can be cultured from the bile in only about 1/3 of cases other 2/3 no organism can be found .

**Symptoms of chronic cholecystitis are similar to that of the acute & range from biliary colic to indolent (mild) abdominal pain

Indolent خفيف ومستمر لفترات طويلة

Clinical Features

** Acute calculous cholecystitis may present with	** Acute acalculous cholecystitis symptoms	** Chronic cholecystitis
mild pain or with severe, steady upper abdominal pain, often radiating to the right shoulder. **When GS are present in the GB neck or in ducts, the pain is colicky or steady upper abdominal . في حالة ال acute inflammation اذا كانت الحصوة محشورة في ال GB neck or CD الالم يؤدي على شكل مغص الصفراوي يشابه المغص الكلوي renal colic **Spasm of the abdominal muscles result in right subcostal **tenderness & rigidity,** & occasionally a tender, distended GB can be palpated. لما يصير التهاب ب GB ويصير ال involvement of serosa Muscles which cover the area become rigid (contracted) تحاول تحميلك ال inflamed GB وشي ثاني انه : If you press your hand gently in the region of GB this will cause tenderness المريض يشكي من الم اذا انت وضعت ايدك على مكان الالم وضغطت عليه وصار يوجع هاد بسموه tenderness لانه حكينا تكبر اربع اضعاف حجمها palpated. **Mild attacks may subside spontaneously over 1 to 10 days; but recurrence is common يعني ال mild قد تشفى وتعود الى حالتها الطبيعية وتنتهي وتختفي subside لوحدها او بعد فترة من علاج من ١ ل ١٠ ايام (when there is GS in GB which cause acute cholecystitis recurrent attack is very very common) فالنصيحة اذا وجدت هاي الحالة It is better to remove GB as early as possible because it will recur (even though the patient getting well) and if it sever you mustttttttttt to intervene and do surgical operation and remove GB which is inflamed هذا الحكي كله وين ؟؟ اذا فيه GS + acute cholecystitis طب اذا ما فيه حصوة ؟؟	*are usually obscured by the generally severe clinical condition of the patient (trauma, sepsis ,dehydration) . حكينا انه هاي تحدث اكثر اشي بالحالات الخطرة ب emergency بهاي الحالة ال Acute acalculous cholecystitis العلامات تبعها تغطى *Diagnosis therefore rests on keeping this possibility in mind. يعني يجب ان تضع في ذاكرتك ومعرفتك انه ممكن يكون عند المريض هاي Acute acalculous cholecystitis لما يكون بالاوضاع الخطيرة يلي حكيناها ..... trauma	*is usually characterized by recurrent attacks of either steady or colicky epigastric or right upper quadrant pain just below the right ribs . *Nausea, vomiting, & **intolerance for fatty foods are frequent accompaniments** بصير عنده غالبا عدم شهية للاكل والاستفراغ وما رح يتحمل الاكل الذي يحوي زيت شحوم دهون لانه بهاي الحالة ما رح يكون ال bile بكمي كافية حتى يهضمها

Diagnosis of acute & chronic cholecystitis

*clinical symptoms

معاناة المريض

*then signs : bowel examination , rebound tenderness , rigidity

* then investigations : usually rests on

1- the detection of GSs or

2- dilatation of the bile ducts (Because obstruction by GS) by U/S or CT scan

3- typically accompanied by evidence of a **thickened GB wall.**

اهم اشي نعتمد عليه بالتشخيص هو وجود GS in GB او اشوف توسع بالقنوات الصفراوية طبعا عن طريق ال ultra sound وهاد بعطيك measurement of the wall of GB هدول النقاط الثلاث بساعدوك على التشخيص

Complications of cholecystitis:

• Bacterial superinfection after initial chemical irritation which is the initial stage of acute cholecystitis , with cholangitis or sepsis,

* bacteria come from : blood or ascending infection of GIT through the CBD leading to cholangitis or sepsis

• We said that acute inflammation of GB may be : mild ,moderate suppurative , very sever acute gangrenous and if it is it will result in weakness >> thinning >> perforation of GB >> infected material will pass into peritoneal cavity

اما يلحق عليها ال omentum فيغطيها ويؤدي الى localized peritoneaitis و abscess formation

GB perforation → localized peritonitis +abscess formation

او انه يلي تحت

GB rupture >> material pass into peritoneal cavity → diffuse peritonitis,

وهاي الاشي خطير جدا واذا لم تعالج بسرعة و efficient بالاضافة ل antibiotic

Usually it will cause death of the patient

- Biliary-enteric fistula,

هاي نادرة ولكن لازم نذكرها لانه تكلمنا عن intestinal obstruction by Stones

Fistula قناة او سبيل يربط ما بين ال GB and intestine هاي كيف تحدث ؟؟

Chronic cholecystitis because of stones result in adhesion with small intestine particularly duodenum >>> then adhesion open by stone irritation >>> leading to opening (fistula) which connect between GB lumen and intestinal lumen

عبر هاي الفتحة شو رح يصير؟؟

with:

1- drainage of bile into adjacent organs which is intestine

2- entry of air & bacteria into the biliary tree

يعني ال air and bacteria يلي بالامعاء رح تصعد عن طريق ال fistula الى GB

3- potentially large sized GS-induced intestinal obstruction

اذا في حصوة بال GBوعادة تكون موجودة بتروح عن طريق هاي fistula وقد تؤدي الى intestinal obstruction اذا لقت مكان ضيق خاصة ب iliosecal valve سمينا GS ilius

طب لو الحصوة عبرت من ampulla of vater هل تسوي intestinal obstruction ؟؟ مستحيل لانه ال stones الموجود ب CBD بكون صغير كتير

So if it passes through ampulla of vater ,,,, it will be very small stones which usually pass with feces without causing any obstruction

سؤال بجيبه بالامتحان فمهم

• Aggravation of preexisting medical illness, with cardiac, pulmonary, renal, or liver decompensation.

معناته واحد مريض بامراض اخرى cardiac renal pulmonary يعني عنده disease اخر ويجي فوقه acute cholecystitis رح تسوء حالة المريض بصورة شديدة وقد تؤدي للوفاة

DISORDERS OF EXTRAHEPATIC BILE DUCTS

Choledocholithiasis & Cholangitis

Cholangitis التهاب السبيل الصفراوي & Choledocholithiasis اما هاي معناها الحصى التي توجد ب bile duct

* **Choledocholithiasis is the presence of stones within the biliary tree.**

*Almost all stones in the West, are derived from the GB; in Asia, there is a much higher incidence of primary ductal & intrahepatic, usually pigmented stone formation.

في اسيا ال mixed GS سواء ..... black or brown تذكر انه Ch GS بس بتتكون ب GB بينما ال pigmented , mixed ممكن ان تتكون inside GB and biliary tree يعني داخل او خارج الكبد

يمكن للحصى ان تتكون بصورة اولية داخل ال biliary tract سواء داخل او خارج الكبد

• Choledocholithiasis may not immediately obstruct major bile ducts; asymptomatic stones are found in 10% of patients at the time of surgical cholecystectomy.

يعني اذا انعمل ١٠٠ عملية لازالة GB عادة بسبب وجود الحصى فيها من هدول ال ١٠٠ رح تجد عشر حالات في حصى اخرى موجودة فيه ب biliary tree = bile duct ولكنها لا تظهر اي علامات

الفائدة العظمى من هاي المعلومة

If you remove GB because of GS you have to look for other stones ……either it is symptomatic or asymptomatic you have to remove it

وهذا دليل انه

Not all stones in bile duct lead to symptoms >>> not definitely cause obstructing the major bile duct

Effects & complications of choledocholithiasis are:

(1) **biliary obstruction** >>leading to obstructive jaundice characterized by jaundice , pain , fever due to ascending infection

(2) if there is reflux of the bile from CBD through pancreatic duct >> activation of pancreatic enzymes>> **pancreatitis**

(3) cholangitis inflammation of bile duct itself

(4) Because the inflammation ascends from intestine upward so if it reaches to liver ….it will lead to **hepatic abscess**

(5) **chronic liver disease with secondary biliary cirrhosis**

يلي هي اخطر ما يكون لانه

Obstructive jaundice >>> retention of bile >>> stoppage of the passage of the bile from biliary tree into intestine >>> so back pressure of the secreted bile >>> hepatocyte necrosis

And if it is remain long time (2 months or more) >>> leads to **secondary biliary cirrhosis**

ارجعوا لاسبابها

(6) **acute calculous cholecystitis** (by stone obstructing cystic duct).

اذا ال CD يلي بتربط ما بين GB and CBD

- **Cholangitis is acute inflammation of the wall of bile ducts, always caused by bacterial infection of the normally sterile lumen, the bacteria most likely enter the biliary tract through the sphincter of Oddi (ascending infection)**.

ال Bile duct معقمة ولا يوجد بها بكتيريا

اذا صار obstruction بأي organ بالتالي organism من lumen of intestine will ascend upward وتؤدي الى **ascending infection**

عنا قاعدة ذهبية :

Any obstruction predisposed to infection

trachea ,urinary tract , biliary tree سواء با

►Causes:

**any lesion obstructing bile flow most commonly	**Uncommon causes include :
*stones & also from surgical reconstruction of the biliary tree.	*Tumors *Strictures * indwelling stents or catheters, التي تستعمل بالناظور *acute pancreatitis.

حفظ ومهم يلي فوق

** **Ascending cholangitis refers to the tendency of bacteria, once within the biliary tree, to ascend & infect intrahepatic biliary ducts.**

التهاب القنوات الصفراوية الصاعد لانه البكتيريا تصعد من intestine يلي القنوات الصفراوية

*The usual pathogens are E. coli, Klebsiella, Clostridium, Bacteroides, or Enterobacter; group D streptococci are also common, & two or more organisms are found in 50% of cases.

* Parasitic cholangitis is a significant in some world populations Fasciola hepatica or schistosomiasis in Latin America & the Near East, Clonorchis sinensis or Opisthorchis viverrini in the Far East, & cryptosporidiosis in individuals with AIDS.

►Clinically

**bacterial cholangitis produces

*fever

*chills (sever fever)

يعني قشعريرة

*abdominal pain

*jaundice.

**In the most severe form, suppurative (pus forming) cholangitis, purulent bile fills & distends bile ducts, with risk of liver abscesses formation

اذا صارت sever وتجمع القيح ب bile duct وهاي خطرة لي ؟ رح يصعب الالتهاب بالكبد ويؤدي لخراج بالكبد

**because sepsis rather than cholestasis is the main risk in cholangitis patients, prompt diagnosis & intervention are imperative.

تشخيص وعلاج السريع لحالة cholangitis هي طوارئ توخد اهمية عظمى لانه المصيبة والمشكلة اذا البكتيريا انتقلت للدم رح تؤدي الى تعفن الدم اذا لم تعالج بصورة صحيحة

خطورة ال sepsis ب suppurative cholangitis اكثر من خطورة الانسداد الصفراوي cholestasis

سؤاااااال الامتحان ترتيب الاحداث :

Ca of the head of pancreas >>> obstruct CBD >>> Ascending cholangitis bacteria ascends either from 1- lumen of the intestine through partially or completely obstructed bile duct

Or by 2- lymphatics tree that surround the CBD >>> hepatic abscess centered on bile duct

Secondary Biliary Cirrhosis

تشمع ثانوي صفراوي بالكبد

►Causes:

**The most common cause of obstruction is extrahepatic cholelithiasis (common hepatic or CBD).

**Other causes include

*cancers of the head of the pancreas (one of the most killing cancers)

* biliary tree &, biliary atresia (if there is no lumen of biliary duct)

* Strictures (narrowing of the lumen) resulting from fibrosis from inflammation or previous surgical procedures.

او انه stones عبرت من ampulla ادت الى ulceration or lacerations
تمزق ب ampulla بعدين رح يصير الها healing by fibrosis ثم بعد ذلك
بصير Strictures ثم biliary obstruction

►The morphologic features of cholestasis (in the liver)

Initially **<u>are entirely reversible</u> with correction of the obstruction, however

بتصير تغيرات كتيرة بالكبد في لمرحلة الاولية من الانسداد الصفراوي ولكن اذا عالجنا الحالة باسبوع اسبوعين بهاي الوضع كل التغيرات بتروح والكبد برجع لحالته الطبيعية ولكن اذا طول ال obstruction من غير علاج عادة ٤ اشهر ولا ٥ شو رح يصير ؟؟ يلي تحت

** **<u>Prolonged obstruction of the extrahepatic biliary tree initiates periportal (around the portal tract) fibrogenesis (because of the damage of the biliary tree from back pressure)</u>**

, scarring & nodule formation with secondary inflammation generating secondary biliary cirrhosis (so it is irreversible).

عادهم تلت مرات

**Subtotal (partial) obstruction may promotes ascending cholangitis, which further contributes to the damage.

Biliary atresia

**Is complete obstruction of bile flow caused by destruction or absence of part or all of the extrahepatic bile ducts.

هاي ال extrahepatic bile ducts اما بتكون مو موجودة او مدمرة على الاطلاق وصاير على شكل حبل ما فيه lumen ال liver بسوي bile ما بقدر يطلعه

****It is the most frequent fatal liver disease in early childhood & accounts for >50% of children referred for liver transplantation.**

Biliary atresia is a major cause neonatal cholestasis (obstructive jaundice) {1/3 of cases} & occurring in **1/10,000 live births.

يعني مية بالمليون

►clinical features

العلامات المختصة بهاي الحالة بسموها هيك

**Salient features:

بنوخدها من الاسفل الى الاعلى حسب structures

(1) Inflammation & fibrosing stricture of hepatic **BD or CBD**

التهاب يؤدي الى تليف يؤدي الى تضيق

(2) Inflammation of **major** intrahepatic bile ducts, with progressive destruction of the **intrahepatic biliary tree**

(3) Florid features of biliary obstruction on **liver** biopsy

شو رح نشوف ؟

*marked bile ductular proliferation

علامة على الانسداد الصفراوي

*portal tract edema & fibrosis

* parenchymal cholestasis

هدول العلامات بدلوك انه هو خارج الكبد وانه سبب biliary atresia وهون
الجراحة تكون مفيدة اذا قدنا نسويها للطفل والمولود

(4) Periportal fibrosis & cirrhosis in 3 to 6/12 after birth.

رح يؤدي الى تكون تشمع في طفل عادة بعد ٣ ل ٦ اشهر بعد الولادة

► Clinically,

**Infants present with neonatal cholestasis & jaundice.

High bilirubin reach 10 – 20 …. Mg

**Laboratory findings do not distinguish between biliary atresia & intrahepatic cholestasis

needle liver biopsy طب في هاي الحالة كيف بدنا نميز ؟

* Liver biopsy provides evidence of bile duct obstruction in 90% of cases

► **treatment**

Liver transplantation remains the definitive **treatment**.
**Without surgical intervention, death usually occurs within 2 years of birth.

Carcinoma of the gall bladder (GB Ca)

**GB Ca develops from the GB epithelial lining.

**It is the most frequent cancer of the biliary tract.

biliary tract. التي تشمل على الكيس الصفراء والقناة الصفراوية طب اذا صار كانسر وين رح يصير ب GB لانه مساحتها اكبر فهو اهم مكان يصير في كانسر بالشجرة الصفراوية

****It is slightly more common in women & occurs mostly in elderly individuals.**

** Preoperative diagnosis is exceptional, occurring in <20% of patients.

تشخيص الكانسر ب GB قبل العملية اشي نادر ما بكون موجود في اكثر من ٢٠% من المرضى

**Mean 5-year survival is dismal (sad and bad) 5%, (as in pancreatic carcinoma!)

يلي يقدرون يعيشوا لخمس سنوات بس ٥ بالمية وهاي كتير قليلة لانه

Spread is very early and very difficult to diagnose >>> prognosis is very poor

وزيه زي ال pancreatic ca

** GS are present in 60% to 90% of cases.

اذا اخذنا ال GB فيها كانسر ٦٠ ل ٩٠ بالمية من حالات بكون فيها حصى

بمعنى اخر انه ١٠ ل ٤٠ بالمية من حالات ما في حصى

*Presumably, GB containing stones or infectious agents develop cancer as a result of recurrent trauma & chronic inflammation.

► Grossly,

بالعين المجردة

**GB Ca grows in one of two patterns:

the more common	less common
(I)Infiltrating الغازي زيادة سمك كل الجدار او جزء منه	(II) Exophytic (fungating) المرتفع عن السطح
*Scirrhous (because excessive fibrous tissue formation) معناها متصلد *very firm & appears as an ill-defined area of diffuse thickening & induration of GB wall غير واضحة المعالم ill-defined *that may involves part or the entire GB *so it is a must for every surgeons send the GB ,which is removed by cholecystectomy however by open operation or laparoscopic examination, to pathologist ليش ؟؟ عشان يفحصحها لانه ممكن يلاقي فيها ca في بدايتها ويقدر يلحق علاجها	grows into the lumen as an irregular cauliflower mass, but invading the underlying wall concurrently (go into liver) يطلع من mucosa تبعت GB It project into the lumen as raised mass برضه هو بغزو

►H,

***most GB Ca are adenocarcinomas (F16-39), either well- , moderate-, poorly-, or un-differentiated infiltrating Ca.**

Well يعني تشابه الاصل

* About 5% are SCC or have adenosquamous (mix glandular + squamous) differentiation.

لازم تعرف النظرية شو هي ؟؟

GB containing stones or infectious agents >>>> recurrent trauma & chronic inflammation >>>metaplasia (convertd it from glandular to squamous) >>> dysplasia >>> SCC

نفس هاي النظرية تنطبق على urinary bladder

**A minority are carcinoid tumors.

طب كيف بصير الانتشار ؟؟

►Spread of GB Ca: when discovered, most Ca have invaded the liver directly (because the bed of GB is the liver) & many have infiltrate the cystic & other adjacent bile ducts & portal hepatic LNs.

**Distant metastases (by blood) are less common.

►Presenting symptoms

*are insidious & indistinguishable from those associated with cholelithiasis.

اذن بتكون gradual ولا يمكن التميز بينها وبين علامات حصى ال GB

لانه شكوى المريض متأخرة وغير دالة بصورة قوية ومباشرة على cancer of GB ،،،، بكون very bad prognosis

* In the event of a very rare discovery of GB Ca at a resectable stage, the fortunate person either

الناس المحظوظينfortunate person وهي حالات نادرة جدانقدر نكتشف الكانسر بمرحلة يمكن ازالتها وعلاجها شو تفسير ؟؟

(I) develops early obstruction & acute cholecystitis before T infiltration into other structures or

اما الورم سد وسكر ال cystic duct + neck of the GB وادى الى acute cholecystitis فأنت بتيجي بتشيل ال GB عأساس فيها التهاب .... وهذا قبل ما ينتشر ل other structure

(II) have cholecystectomy for coexistent symptomatic GS!

انه صار حصوة وشلناها على اساس الحصوة وبس فحصنها طلع كانسر بمراحله الاولى

▼Preoperative diagnosis rests on detection of GS with GB wall abnormalities documented by imaging studies.

التشخيص قبل العملية يمكن ان نسوي US imaging or CT فاذا وجدنا حصوة + زيادة في سمك الجدار تثخن او ورم داخل GB يعني **GB wall abnormalities**

بهاي الحالة بنحكي ورم

ملاحظة على صورة ١٦ -٣٩ هاي الصورة ب stomach ,colon , GB نفس الشي لانه هاي adenocarcinoma ازا حكالنا انها مؤخوذة من GB معناته

Adenoca of GB

Cholangiocarcinomas

**** Cholangioca are well-differentiated adenocarcinomas, with biliary differentiation, arising from cholangiocytes lining intra or extra-hepatic bile ducts, with an abundant fibrous stroma {desmoplasia, F16-40} explaining their firm, & gritty consistency .**

abundant fibrous stroma desmoplastic

reaction because هو بالحقيقة fibrosis ال GB Ca + breast بتصير ب
desmoplastic or Scirrhous فالورم بسموه presence of cancer

****Bile pigment & hyaline inclusions are not found within the cells. It occur mostly in elderly individuals.**

Mallory hyaline و قد ترى bile pigments حكينا ال HCC يوم حكينا عن
bodies قد ترى اما هون ما رح يبينوا

► Risk factors

ما هي العوامل التي تزيد خطر الاصابة

(I) primary sclerosing cholangitis (PSC),

(II) fibrocystic diseases of the biliary tree,

RS – GIT – هاد بصير بأجزاء متعددة من الجسم fibrocystic diseases
biliary system

(III) exposure to Thorotrast, previously used in biliary tree radiography.

بالربعينيات والخمسينات من القرن الماضي كانوا بستخدموا هاي المادة حتى يشوفوا X ray appearance of BT لنكتشف بعدين انه كل بوخدها بتزيد احتمالية السرطان عنده فتم منع استخدامها

►Types

extrahepatic T	Intrahepatic T
2/3	1/3
*develop **at the hilum** of liver (known as Klatskin T) وهذا علاجه الجراحي صعب جدا لانه بدك تزيل الورم تقص وتحط frozen section وما بضل عنا bile duct يعني دمر كل BT بهاي الحالة شو بنعمل ؟ Anastomosis between GB and intestine to relieve obstructive jaundice *more distally in the biliary tree, as far as the peripancreatic portion of the distal CBD.	
the incidence of which decrease worldwide	the incidence of which increase worldwide

طب بالنسبة يلي فوق لي وحدة بتزيد وحدة بتقل ؟

The causes for these changes are unknown , but suggest that intra- & extrahepatic cholangioca may have different pathogenesis.

هي كلها bile duct سواء خارج او داخل ال liver
بس معناته انه يلي يؤدي الى سرطان بهذين الجزأين مختلف

*Because extrahepatic cholangioca causes obstructive jaundice early لانها تؤدي الى obstructive jaundice فتثير الشك و investigation لذلك لحسن لحظ لما نكتشفها بتكون صغيرة *they tend to be relatively small at the time of diagnosis, most appear as firm, gray nodules, some are papillary or polypoid, within the bile duct wall; some may be diffusely infiltrative T, with ill-defined wall thickening.	► Intrahepatic cholangioca This is very bad presented by non-specific symptoms such as weight loss, pain, anorexia, & ascites, & are detected by the presence of liver mass on X-ray or CT. non-specific علامات غير مميزة X-ray or CT. يبينلك انه بس في tumor داخل الكبد بس ما بنقدر نحدد نوعه هل هو HCC OR cholangioca الا عن طريق ال LIVER BIOPSY

►Spread of Cholangioca occur to regional LN, lungs, bones, & adrenal glands, Indeed, **Cholangioca have greater tendency for extrahepatic spread than Hepatocellular ca!**

بالحقيقة والواقع Indeed

هاي شغلة يلي بالبولد شغلة غريبة لانه احنا حكينا انه vascular (hamatogenous) spread بكون very mark and very early مع ذلك الجملة يلي بالبولد

►Prognosis

*is poor, why ??

because most cholangiocarcinomas are generally asymptomatic until they reach an advanced stage & most patients have unresectable tumors.

العلامات تظهر بمرحلة متقدمة لا تستفيد من العلاج وعبر مرحلة ال cure ويعتبر unresectable لا يمكن ازالته

►treatment :

*Surgical resection is the only treatment available

* mean survival is 6 to18 months, regardless of whether aggressive resection or palliative surgery is performed.

كمعدل لمعيشة الفرد بعد علاجه يتراوح ما بين ٦ ل ١٨ شهر سواء سويتله جراحة عظيمة او استعملت جراحة تلطيفية خفيفة