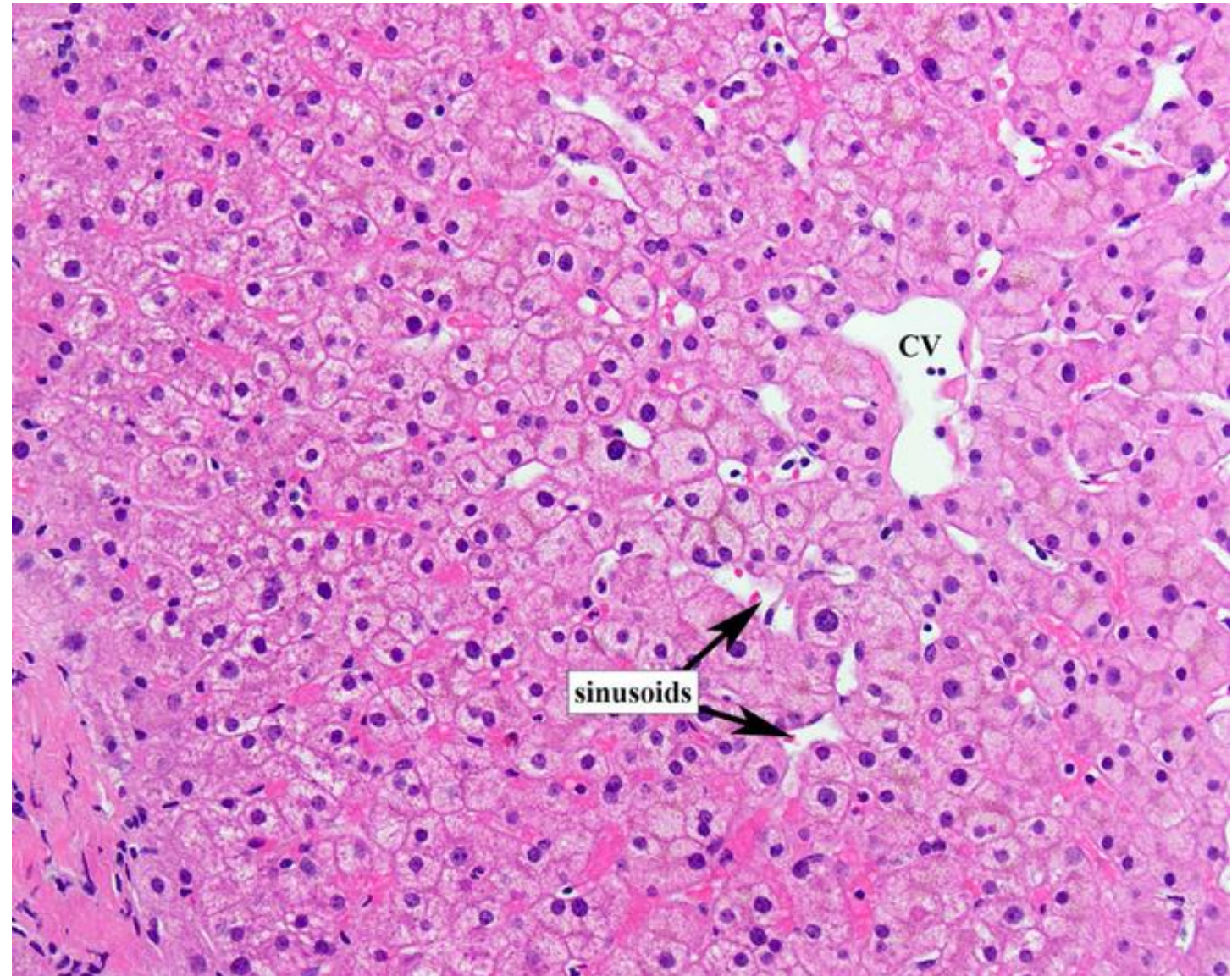


Autoimmune Hepatitis

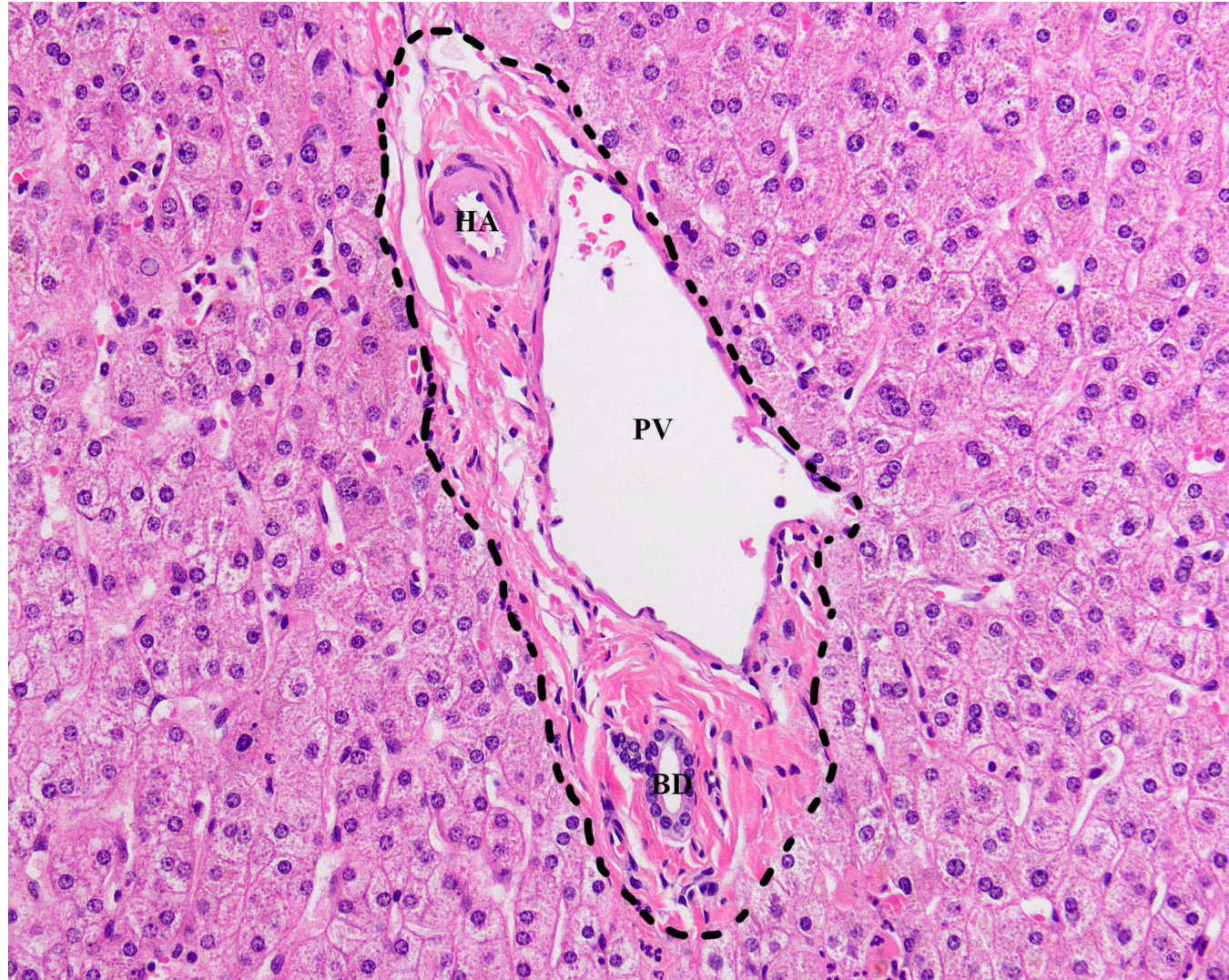
شہر یور 1404

Normal Liver Histology: Parenchyma or Lobule



Normal Liver Histology: Portal Areas

(Note Limiting Plate in Black)



Autoimmune Hepatitis

- **Chronic and progressive hepatitis**

Viral Versus Autoimmune Hepatitis

- Shares pattern with acute or chronic viral hepatitis but the time course differs
- In viral hepatitis fibrosis typically follows many years of slowly accumulating parenchymal injury
- In autoimmune hepatitis there is an early phase of severe parenchymal destruction followed rapidly by scarring

Histologic Features of Autoimmune Hepatitis

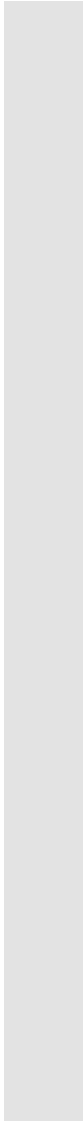
- **Necrosis And Inflammation:**
 - Extensive Interface Hepatitis
 - Foci of confluent necrosis (perivenular or bridging)
 - Or parenchymal collapse

Histologic Features of Autoimmune Hepatitis

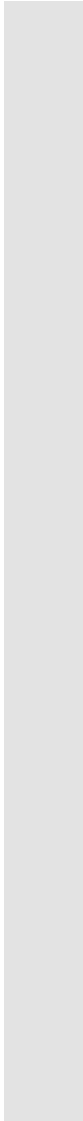
- **Plasma cell predominance (in the mononuclear inflammatory infiltrates)**

Histologic Features of Autoimmune Hepatitis

- Hepatocytes rosettes in areas of marked activity
- Emperipolesis
- These two falling out of favor

- 
- 
- **None are specific**

- Incidence of cirrhosis at presentation varies widely:
- North America (59 - 85%),
- Middle East (22.2 - 45.5%),
- China (24.8%), Japan (6.4 - 12.8%)
- From: **J Gastroenterol Hepatol 2015;30:1230**

- 
- 
- **Diagnosis is based on:**
 - combination of clinical, laboratory and histological features

Subtypes:

- Type 1: positive for antinuclear antibody or anti smooth muscle antibody; 10% have other autoimmune disorders
- Type 2: positive for anti liver kidney microsomal antibody or anti liver cytosol type 1 antibody positive; often presents with acute or fulminant hepatitis; 17% have other autoimmune disorders
- Type 3: controversial subtype. positive for antisoluble liver antigen / liver pancreas; clinical and laboratory features indistinguishable from type 1

Other Subtypes

- About 10% of autoimmune hepatitis fits into following scenarios:
 - Overlap syndrome
 - Autoimmune hepatitis / primary biliary cholangitis (PBC)
 - Autoimmune hepatitis / primary sclerosing cholangitis (PSC)
 - Variant syndromes
 - Seronegative autoimmune hepatitis
 - Antimitochondrial antibody positive autoimmune hepatitis
 - IgG₄ associated autoimmune hepatitis

Laboratory Findings

- **Serum autoantibodies**

- **Antinuclear antibody:** positive in 75% of type 1 autoimmune hepatitis; not associated with disease course or outcome
- **Anti smooth muscle antibody:** positive in 95% of type 1 autoimmune hepatitis; not associated with disease course or outcome
- **Anti liver kidney microsomal:** diagnostic for type 2 autoimmune hepatitis; associated with younger age at presentation, fulminant hepatic failure and partial IgA deficiency
- **Anti liver cytosol type 1:** diagnostic for type 2 autoimmune hepatitis; associated with more severe inflammation and rapid progression to cirrhosis
- **Antisoluble liver antigen / liver pancreas:** positive in 20 - 50% of autoimmune hepatitis; associated with more severe disease, treatment dependence, relapse after drug withdrawal and need for transplantation

Laboratory Findings (Continued)

- Elevated liver enzymes (Commonly 5-20 times normal level)
- ALT / AST > ALP
- Serum immunoglobulin G (IgG): marker for diagnosis (> 1.1 x upper limit of normal [ULN]) and monitoring treatment response

Prognostic Factors

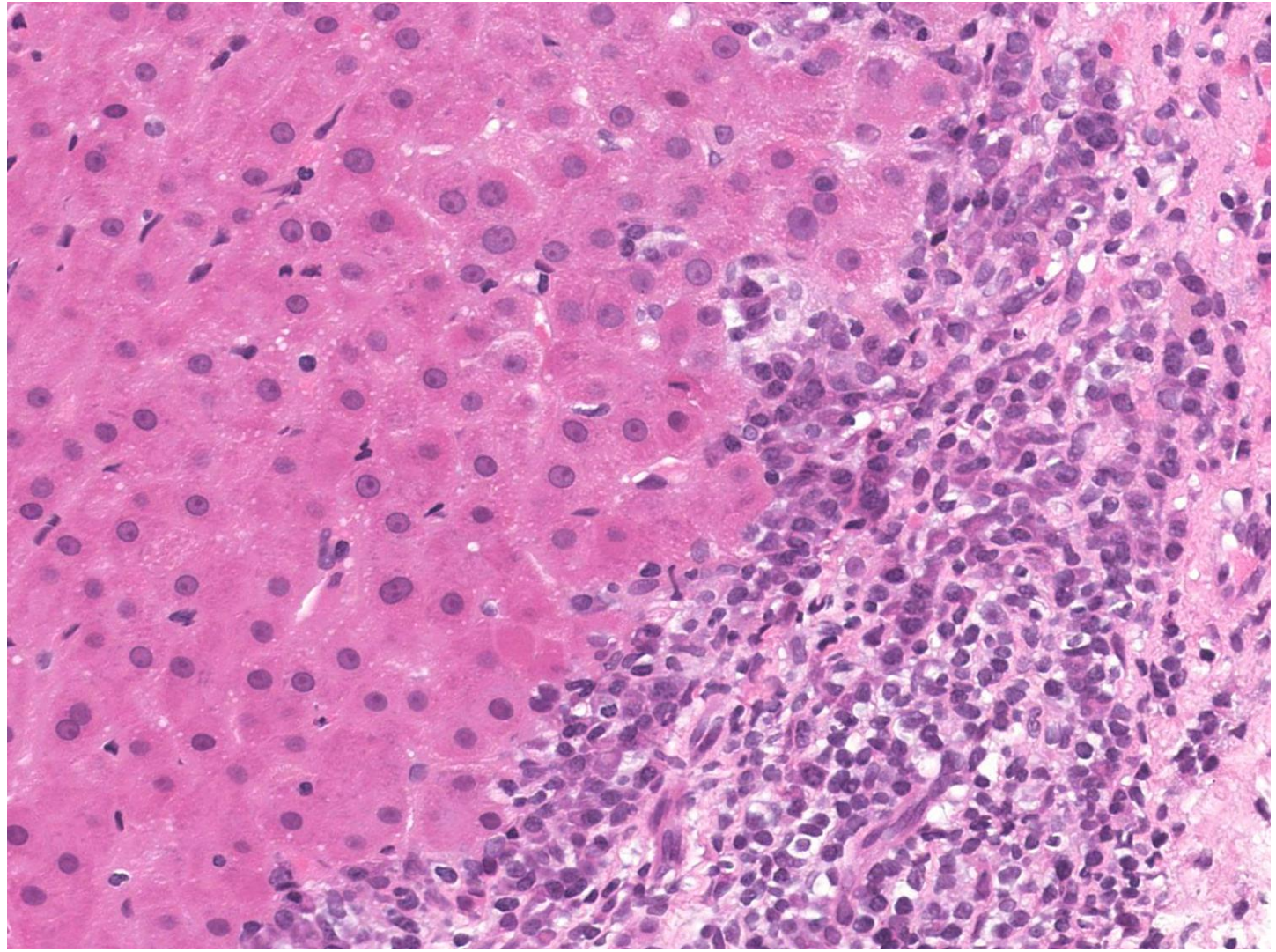
- Good prognostic factor: IgG₄ associated autoimmune hepatitis
- Poor prognostic factors: extreme age (≤ 20 years or ≥ 60 years), failure to normalize alanine aminotransferase within 6 months of onset of therapy, serum albumin ≤ 35 g/L

Histology

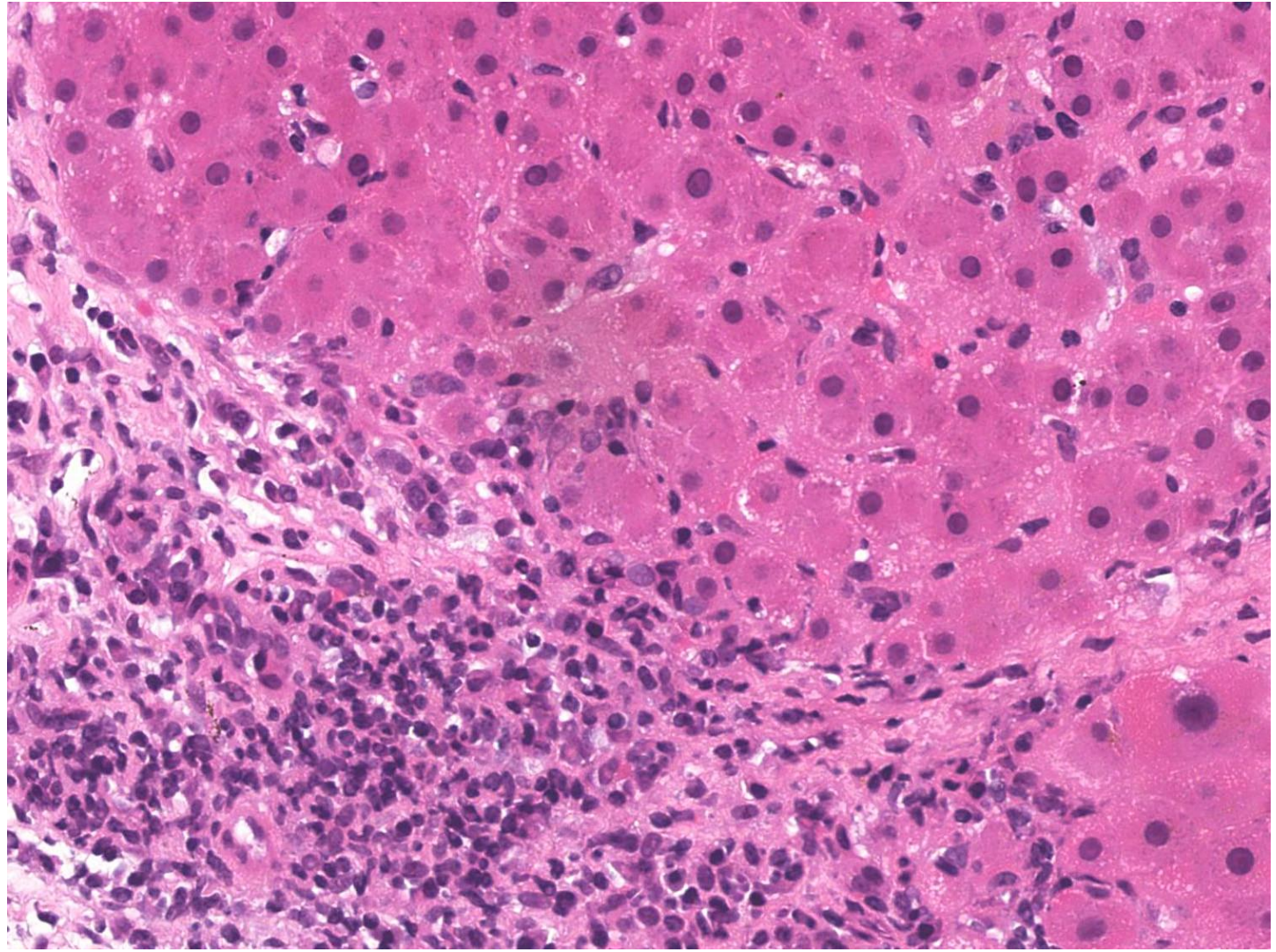
- Portal plasma cell rich inflammation
- Interface hepatitis, formerly referred to as piecemeal necrosis: portal inflammatory cells eroding through the limiting plate between the portal tract and liver parenchyma
- Emperipolesis: active penetration of lymphocytes into and through a hepatocyte
- Hepatocyte rosettes
- Variable fibrosis (about 10% of autoimmune hepatitis does not show any fibrosis at initial presentation)
- Lobular necroinflammatory activity: usually accompanied by portal and periportal inflammation

Interface Hepatitis

(Plasma Cells Are Seen)

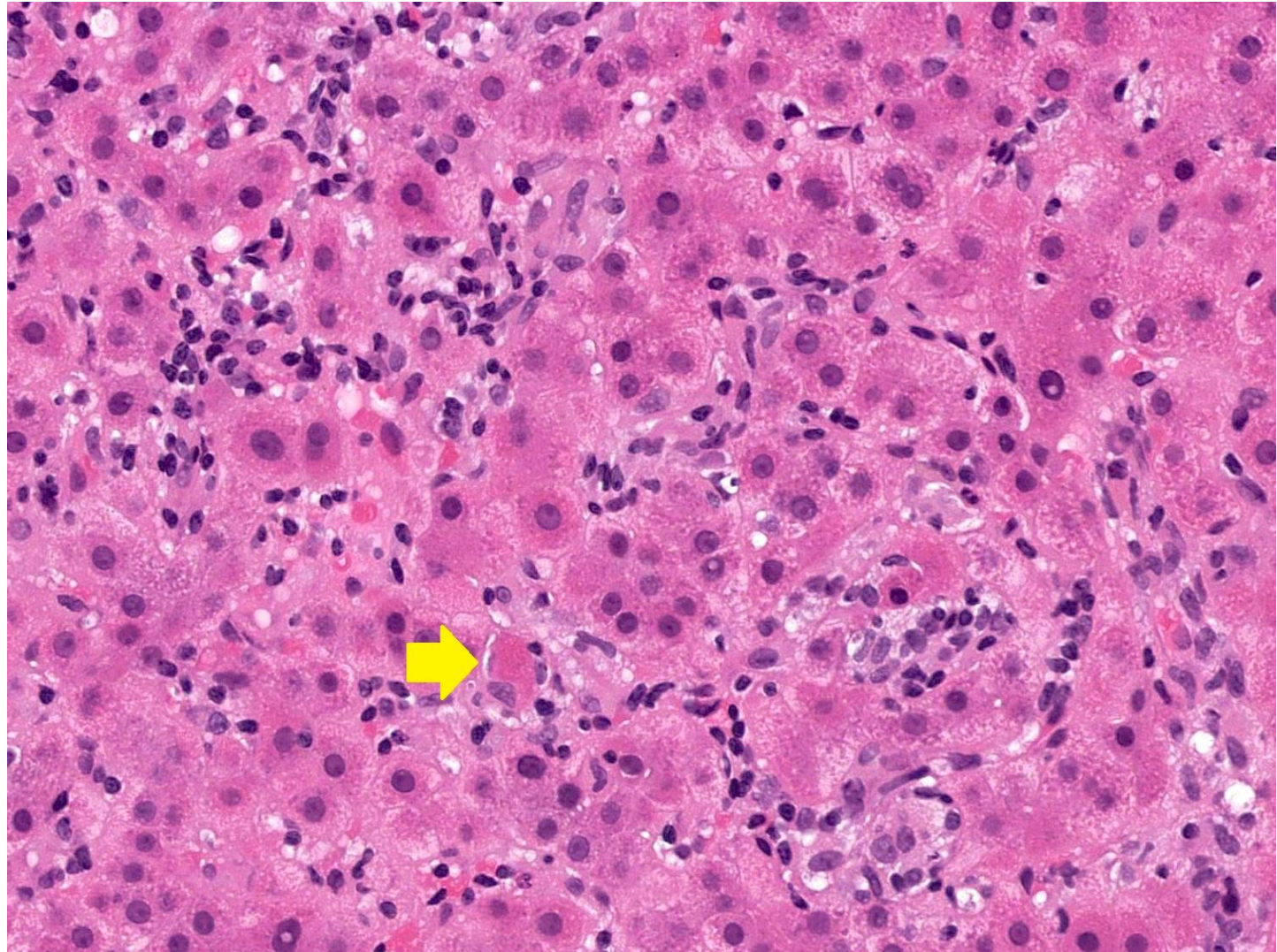


Interface Hepatitis

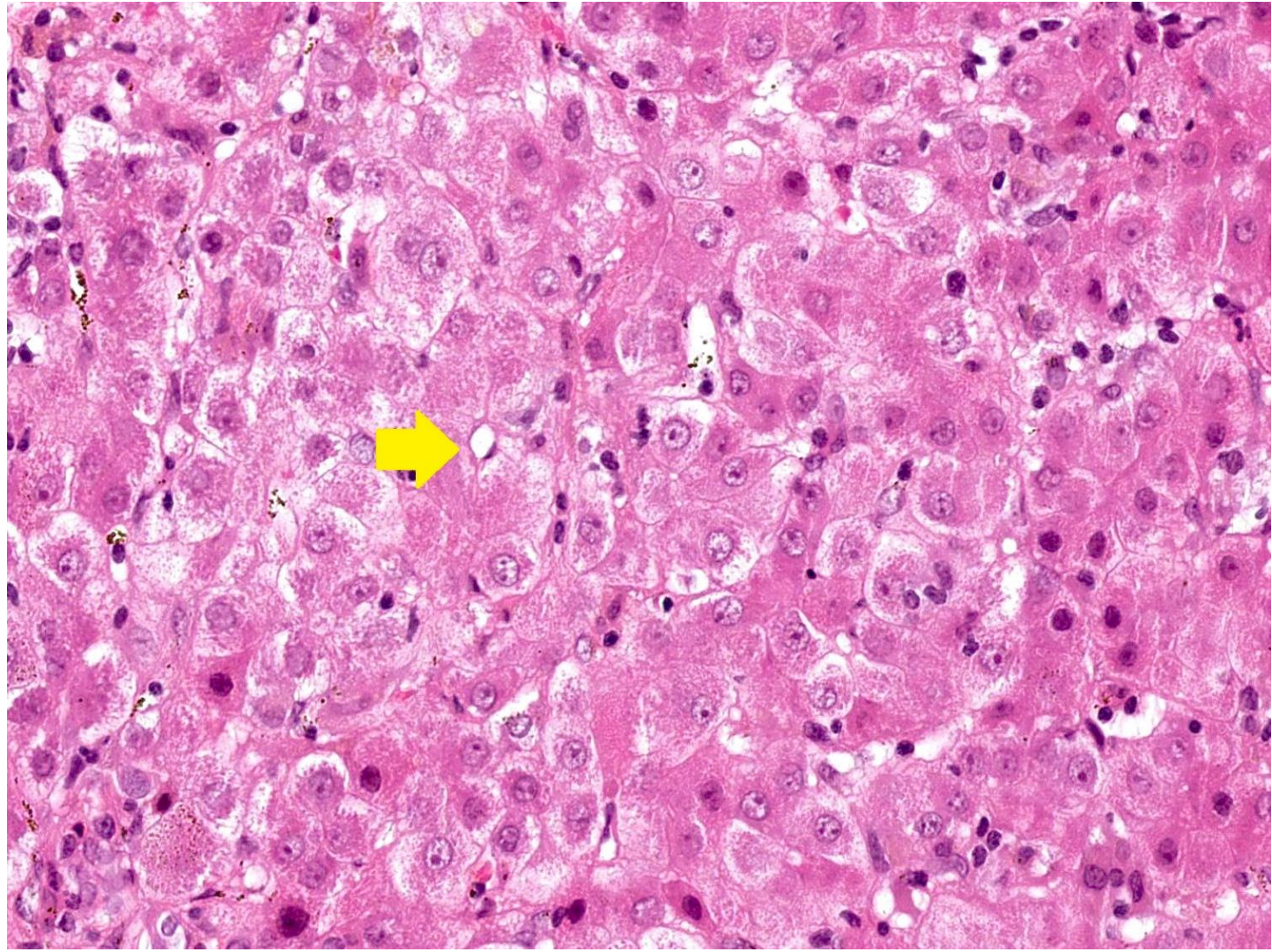


Lobular or Parenchymal Inflammation

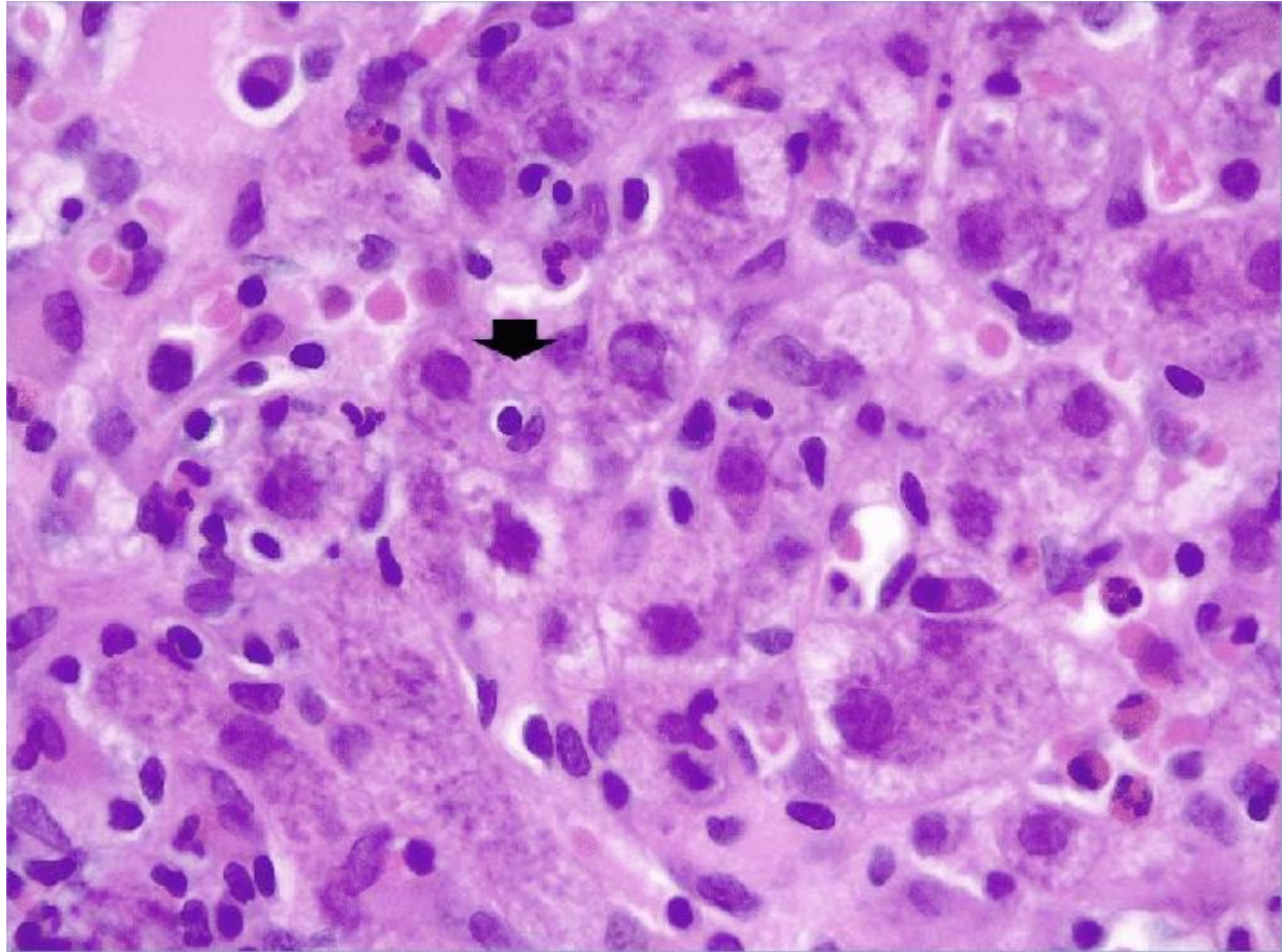
(Arrow: Apoptotic Hepatocyte)



Rosettes



Emperipolesis



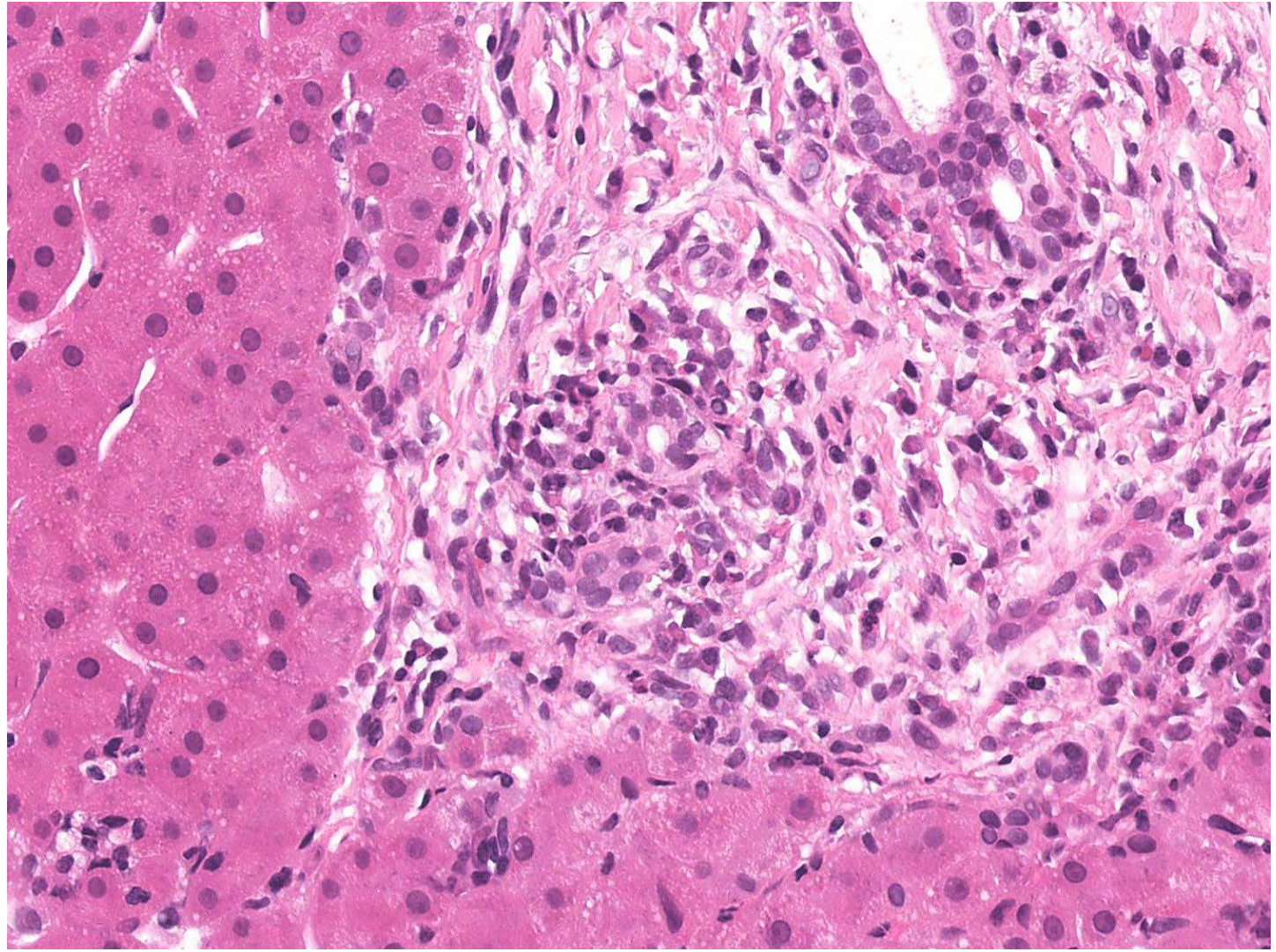
Uncommon Morphological Changes:

- Perivenular necrosis: up to 17% of autoimmune hepatitis with or without typical portal and periportal changes; associated with more severe disease activity and lower histological stage
- Intrahepatic cholestasis (bilirubinostasis)
- Syncytial multinucleated giant cells: autoimmune hepatitis is the most common cause (30%) of postinfantile giant cell hepatitis, which is rare in adults (0.1 - 0.25% of all hepatitis)

Bile Duct Injury

- Mild bile duct injury / inflammation: present in up to 24% of classical autoimmune hepatitis
- Chronic biliary disease or overlap syndrome only need to be considered in the presence of more extensive bile duct injury, florid duct lesions, ductular reaction, ductopenia, chronic cholestasis, portal granulomas or periductal fibrosis (clinical and laboratory findings must separately be met for both autoimmune hepatitis and primary sclerosing cholangitis / primary biliary cholangitis)

Bile Duct Injury



IgG4 Associated Autoimmune Hepatitis:

- > 10 IgG4 positive plasma cells / high power field

International Autoimmune Hepatitis Group Scoring System

- Simplified International Autoimmune Hepatitis Group scoring system:
 - Typical of autoimmune hepatitis (sensitivity: 40 - 59%; specificity: 55 - 96%)
 - Interface hepatitis with lymphocytic or lymphoplasmacytic infiltrate
 - Hepatocyte rosettes
 - Emperipolesis
 - Compatible with autoimmune hepatitis
 - Chronic hepatitis with lymphocytic infiltrate
 - Without all 3 typical features
- Recent studies have suggested hepatocyte rosettes and emperipolesis are not specific features of autoimmune hepatitis

Grading And Staging of Autoimmune Hepatitis

- Grading and staging is usually performed according to systems developed for viral hepatitis (HAI scoring)

Differential Diagnosis

- Clinical presentation, including serology, is very important for resolving the differential diagnosis
- **Chronic hepatitis C:**
 - Portal lymphocytic infiltrate with lymphoid follicles
 - Less severe interface hepatitis
 - Mild bile duct injury
 - Mild steatosis
- **Drug / toxin reaction:**
 - No reliable histological features differentiating autoimmune hepatitis and drug induced liver injury
 - Clinical correlation with drug history is essential
- **Hepatitis A:**
 - May resemble acute / early phase of autoimmune hepatitis (prominent plasma cells and interface hepatitis)
 - No fibrosis
 - Viral serology is crucial

Differential Diagnosis

- **Overlap syndromes:**
- **Primary biliary cholangitis:**
 - Unequivocal bile duct injury with chronic cholestasis
 - Only mild interface hepatitis and lobular necroinflammatory activity
 - Cholestatic liver enzyme derangement or seropositivity of antimitochondrial antibody
- **Primary sclerosing cholangitis:**
 - Periductal fibrosis with chronic cholestasis
 - Only mild interface hepatitis and lobular necroinflammatory activity
 - Cholestatic liver enzyme derangement or seropositivity of antineutrophil cytoplasmic antibodies
 - Classic liver imaging findings helpful to establish this diagnosis
 - More common in male patients

Differential Diagnosis

- Small bile duct primary sclerosing cholangitis

Sample Pathology Report

- Liver, biopsy:
 - Chronic hepatitis with dense portal lymphoplasmacytic infiltrate, moderate interface hepatitis, mild lobular necroinflammatory activity and moderate periportal fibrosis (see comment)
 - Comment: In view of hepatitic liver enzyme derangement, serum antinuclear antibody titer (1:320), seropositivity of smooth muscle antibody and elevated serum IgG (1.2 x ULN), the overall features are consistent with autoimmune hepatitis.

معرفی بیمار

• دختر 12.5 ساله

معرفی بیمار

شماره پاتولوژی:	شماره پذیرش:	تاریخ پذیرش:	وقت دهی جهت جواب دادن آزمایش به بیمار:
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علامت بالینی و علت مراجعه: دل درد - کبودی (آتریم؟) ۷۰۷۵

۱۴۰۱ سال قبل (۱۴۰۱ - ۱۴۰۲) اطباء درد در ناحیه RUQ داشته
صبح هنگام بیدار شدن از خواب درد داشته و نیم ساعت طول می کشیده
و در طول روز هم شکایتی نداشته است. شبها بادرل درد بیدار نمی شده
شرح حال و معاینه:

است. تب و استفراغ هم نداشته است. آزمایش و سونوگرافی، آتریم؟
۵۵ و ۵۹ بوده است. سونو هم طبیعی بوده است.
پاییز ۱۴۰۲ گاهی تب هم داشته است، با بعضی غذا که روز قبل یخزده
وزن و قد بیمار: Weight = 56
Height = 159
آتریم؟ رادی ۱۴۰۲
متوجه شده اند

آزمایشات همراه:

صبح بیدار شده و دل در درد استفراغ داشته (آب زرد ۷۵ میلی آدره
است) مخصوصاً غذای چرب. دوبار که اتفاق افتاده در نگاه رفته اند
سرم وصل کرده اند. باز ادامه یافته، خانه یک در توله می خورده حتی
عدیم را داشته است. زمستان نزد دکتر [] رفته اند. آتریم؟ با ۷۵ بوده
است. دستور بیوسپی داده اند ولی چند ماهی صبر کرده اند: چرا؟
دکتر [] رفته اند در ماه دیاسی E د Liver
52

محل برداشت نمونه:

5 عدد ۱۱ م
9341 - 03
+
4 عدد ۸ م
2476 - 03

با این حال دستور بیوسپی
داده اند تا اینکه در د ۱۴۰۲ بیوسپی شده است

معرفی بیمار

۱۴۰۴-۱۲

ارطاج: دکتر [نام] داده اند. استیاس و سیسول را چک کرده اند که منفی بود.
است: به قرص گیاهی + اورسیریل داده اند. ۷۰۰م آرتزد دک [نام] نوشته اند.
MRCP هم انجام شده است که آدل اقبال PSC داده اند ولی دکتر پاک
در مرکز ملی بازبینی کرده اند و نمراتی گزارش کرده اند.
در نهایت نزد دکتر جعفری رفته اند. دکتر جعفری برای بررسی ۷۷۷۷ آرتا سینه
با ارطاج داده اند.

- پدر و مادر نسبت فاضلی ندارند ⊖
- تنها فرزند است

همه از این کودک مادر به سقط دانسته است

پس Golden Baby است

۱۴۹۵ - ۵ ماهگی - نخاع بیرون بود - سقط درمانی

۱۴۹۷ - ۱۱۵ ماهگی - خودش سقط شده است

۱۴۰۲ - استراحت مطلق بود اند، جبین پایش بود است. حتی
غذا از بیرون نگرفته اند. کودک هم غذای بیرون را نمی خورد است
و دل درد نگرفته است.

مادر ۵ ماهگی دچار درد شکم شده، دانم رخم باز شده و همی پایی

بچه بیرون آمده است - مادر دچار شکم غش شده، ICU بستری

شده و فردا شب زیر بیهوشی بچه را بیرون آورده اند

در حال حاضر مادر الکلی است

- آنکروز: در خانواده ندارند

- سابقه ESR کبد در خانواده ندارند. فقط پدر کبد چربی

I و II دارند.

۲۱۴۱

معرفی بیمار

12-9-19

آزمایشگاه مار

12-1, 9, 22

FBS = 95 (up to 99)

urear = 13 (15-36)

BUN = 6.07 (5-22)

Crea = 0.7 (0.6-14)

Uric Acid = 3.6 (2.6-4)

TG = 145 (up to 200)

Chol = 166 (up to 200)

HDL = 30 (low risk > 60)

LDL = 98 (< 100)

AST = 33 (< 41)

ALT = 39 (< 41)

Alk-ph = 507 (150-1200)

Bil T = 0.55 (up to 1.2)

" D = 0.18 (up to 0.6)

Mgr = 1.95 (1.8-2.5)

WBC = 7100 N 60:4

RBC = 5.06 L 32.5

Hg = 13.8 M 4.4

MCV = 80 E 1.8

Baro = 0.4

PLT = 266000

ESR = 7

CRP = Neg

T4 = 13.16 (5.99-13.8)

T3 = 2.17 (1.43-3.55)

TSH = 1.80 (0.34-5.7)

Ferritin = 46.1 (10-100)

25OH Vit D = 49.4 (suf. 20-50)

UJA = WBC = 4-6

RBC = 0-1

Hbs Ag = 0.5 (< 0.9)

Hbs Abs = 5.3 (< 9: Neg)

Hcv Abs non Reactive

T4 = 14.12 (5.9-13.2)

مرکز مار لور اولت

خ دولت

12-1, 9, 22

سوزش شکم و دلگشایی

حاجی

12-1, 9, 22

سوزش شکم و دلگشایی

قطعیت تمام آزاد در شکم

دسته ی سوز

آزمایشگاه نور-س حاجیان

12-2, 10, 22

WBC = 5.69 N 51.1

Hg = 14.3 L 33.9

A1BC = 5.17 M 8.1

MCV = 78.5 E 6.5

Baro = 0.4

PT = 14.2 INR = 1.03

APTT = 30

FBS = 84 (60-100)

Chol = 147 (< 200)

TG = 123 (< 200)

Ca = 9 (8.6-10.3)

P = 4.9 (3.2-5.7)

Bil T = 0.65 (0.1-1.2)

Bil D = 0.24 (up to 0.3)

AST = 67 (< 31)

ALT = 129 (up to 32)

Alk-ph = 620 (180-1200)

LDH = 385 (1-580)

Alb = 4.7 (3.5-5)

Blood Cereplasmans = 20 (20-61)

Anti TTG IgA = 0.7 (112)

" " IgG = 9.2 (< 12)

TSH = 1.75 (0.5-4.3)

Ferritin = 32 (4-104.2)

CPK = 77 (up to 150)

IgA = 71 (44-395)

homogenous pattern

FANAS 1/160 (up to 1/40)

Lk Ab + Neg

معرفی بیمار

آزمایشگاه مرکزی پاتوبیولوژی	۱۳۹۷-۱۲	خوارکستان
۱۳۹۷/۲/۱۵	۱۳۹۷/۱۲/۱۹	۱۳۹۷/۱۲/۱۹
WBC = 6.40	Copper = 152 microgr	
RBC = 5.25	آزمایشگاه پاتوبیولوژی	
Hg = 14.8	پارس	
MCV = 78.3	۱۳۹۷/۱۲/۱۹	
PLT = 228000	ESR = 6	
AST = 31 (up to 31)	WBC = 5700	N 51.2
ALT = 60 (up to 31)	L 38.7	L 38.7
GGT = 12 (5-36)	Hg = 14.9	M 6.6
PT T = 7 (6-8)	RBC = 5.10	E 3.1
Alb = 4.5 (3.8-5.4)	PLT = 231000	Baso 0.4
Ig G = 990 (759-1549)	MCV = 85	
A/G ratio = 1.8 (1.5-2.5)	PT = 13.2 INR = 1.00	
CRP = <0.6 (up to 5)	FBS = 94 (65-100)	
PT = 14.8	Crea = 0.5 (0.5-0.9)	
INR = 1.13	Alb-ph = 277 (129-417)	
Anti MP = Ig G = 2.8 (<2)	AST = 53 (5-32)	
S/E = Brown-normal	ALT = 92 (5-33)	
Neg	Alb = 4.6 (3.8-5.4)	
	GGT = 14 (3-40)	
	Bil T = 0.4 (0.3-1)	
	Bil D = 0.1 (0-0.3)	
	CRP = <1 (up to 8)	
	مرکز تصویر برداری	
	توسط	
	۱۳۹۷/۱۲/۱۹ MRCP	
	subtle Beaded	
	Appearance of Intra-	
	Hepatic Bile Ducts = PSC	
	suggestive	
	امکان	
	با مرکز پارس	
	دکتر پارس	
	۱۳۹۷/۲/۱۵	
	طبعی	
	سزارش	
	امکان	

معرفی بیمار

14.8-14	
14.8, 11, 12	14.8, 11, 12
ESR: 7	PTT: 32.6 (26-45)
WBC = 4900	WBC: 4100 N 44
Hgb: 14.9	RBC: 4.84 L 45.9
RBC: 5.05	Hgb: 14.1 M 5.5
MCV: 83.6	MCV: 84.8 E 4.2
PLT: 252000	PLT: 240000 Baso 0.4
PT: 14.7	PT: 14 INR 1.04
INR: 1.11	FBS: 100 (لاستیک)
	Urea: 8 (7-20)
FBS: 92 (65-100)	Crea: 0.6 (0.5-0.9)
Crea: 0.5 (0.5-0.9)	Uric Acids: 4.6 (2.4-5.7)
Alk.p: 292 (129-417)	Chol: 163 (<200)
AST: 44 (5-32)	TG: 84 (50-150)
ALT: 68 (5-33)	HDL: 37 (45-65)
	LDL: 125 (57-130)
Alb: 4.6 (3.8-5.4)	Alk-ph: 274 (129-417)
GGT: 12 (3-40)	AST: 40 (5-32)
Bil.T: 0.6 (0.3-1)	ALT: 73 (5-33)
4.D: 0.2 (0-0.3)	HbA1c: 4.8 (4-5.7)
TTC IgA: <1 (<10)	TSH: 1.51 (0.5-4.3)
CRP: <1 (Up to 8)	Ferritin: 18 (6.7-177)
TTC IgG: <1 (<10)	Vit B12: 708 (187-883)
TSH: 1.09 (0.5-4.3)	25OH vit D: 35.4
آزمایشات زیر بازرسی	(Sot: 20-80)
14.8, 11, 12	14.8, 11, 12
24 h Urine Copper: 370	AST: 30 (5-32)
با چربا، ترش است	ALT: 48 (5-33)
Challenge	GGT: 16 (3-40)
Tot Vol: 850	FANA: Neg
24 h Urine Crea: 615 mg/24h	IgG: 927 (759-550)
(8-22 mg/10g/24h)	Ceruloplasmin: 47
	(15-58)

12. C, 11, CV
 WBC: 5.99 N 49.2
 RBC: 5.15 L 37.7
 Hg: 14.3 M 6.8
 MCV: 81.9 E 5.8
 Baso 0.5
 PLT: 245000
 Bil T: 0.43 (0.1-1.2)
 Bil D: 0.17 (up to 0.3)
 AST: 44 (<31)
 ALT: 65 (up to 32)
 Alk. ph: 564 (180-1200)
 Ceruloplasmin: 22 (20-61)
 urine Copper 24 h = 8.4 (10-70)
 FANA = Neg
 ASMA = Neg
 Hbr Ag: 0.5 (<0.9)
 Abs Ab: 4 (Neg <9)
 HCV Ab: Non reactive
 LKMAb: Neg

12. C, 11, CV
 FBS = 95 (60-100)
 ALT = 54 (<33)
 AST = 40 (up to 32)
 Alk. pL = 234 (129-417)
 Alb, 4.8 (3.8-5.4)
 WBC, 4.6 N 46.5
 RBC, 5.09 L 42.8
 M 6.9
 Hg, 14 E 3.2
 PLT, 244000 Baso 0.6

12. C, 11, CV
 TSH = 1.572 (0.35-5.5)
 Fasting Insulin = 10.2 (2.6-25)
 25 OH vit D = 34 (optimum: 30-70)
 Bil T: 0.5 (<1.4)
 4 D: 0.2 (<0.4)

12. C, 11, CV
 Bil T = 0.4 (<1.4)
 4 D = 0.2 (<0.4)
 ALT = 105 (<34)
 AST = 59 (up to 32)
 Alk. ph: 295 (129-417)
 WBC: 5300 N 48.5
 RBC: 5.4 L 39.3
 M 8.2
 Hg: 15 E 3.4
 Baso 0.6
 PLT: 224000
 MCV: 81.9

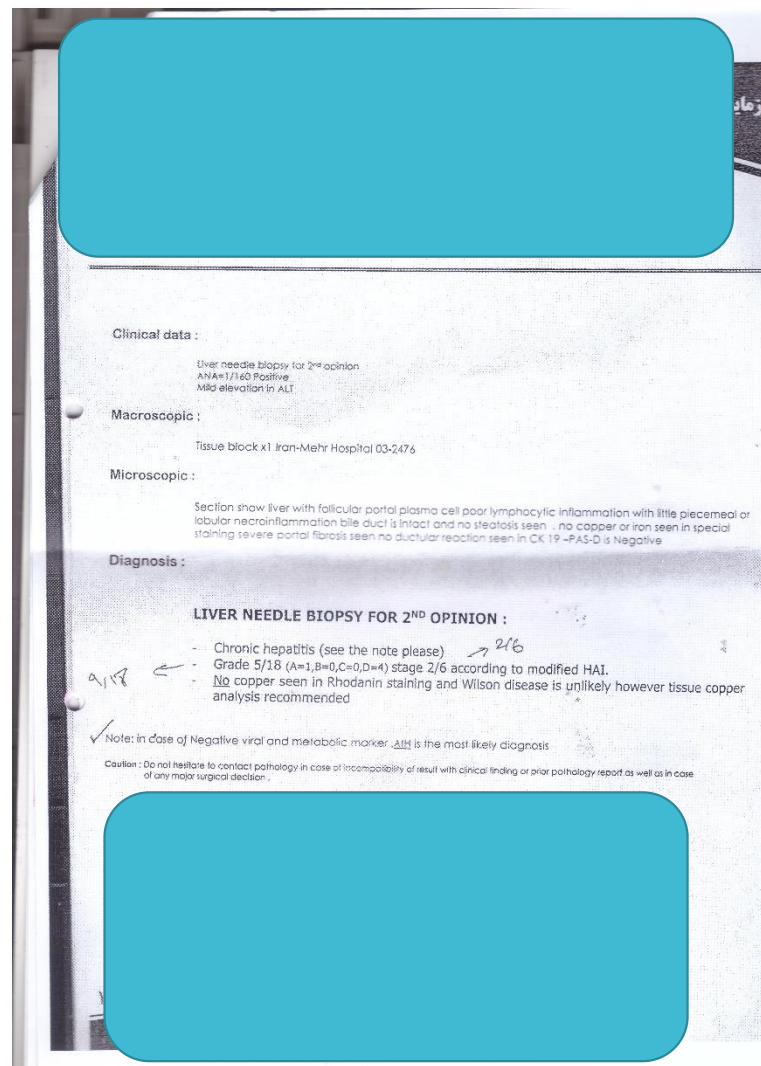
12. C, 11, CV
 FBS = 97 (60-100)
 GGT = 19 (5-36)
 Ceruloplasmin: 25 (16-45)
 Iron: 100 (50-120)
 TIBC: 400 (250-450)
 Ig G: 904 (698-1560)
 ANA: 1/160 (up to 1/80)

12. C, 11, CV
 Insulin: 16.1 (2-25)
 Ferritin: 30.9 (6-140)

گزارش های پاتولوژی

[Redacted]	
PATHOLOGY REPORT	
SPECIMEN Liver needle biopsy	
CLINICAL R/O autoimmune hepatitis	
MACROSCOPIC The specimen received in formalin consists of 2 band like pinkish soft tissue fragments, M=1.5x0.1x0.1 cm. Totally submitted.	
MICROSCOPIC Sections of liver needle biopsy show preserved lobular and vascular structures. The portal spaces are expanded by lymphoplasmacytic infiltration (moderate to marked) with foci of mild to moderate piecemeal necrosis. Occasional portal central necrosis. Rare focal lytic necrosis are seen. Some portal spaces show fibrous expansion with occasional portal-portal bridging.	
DIAGNOSIS Liver needle biopsy: -Chronic active hepatitis -The grading and staging according to hepatitis activity index is grade: 3+2+1+3=9/18 stage is 3.	
[Redacted]	
Page 1	

گزارش های پاتولوژی



گزارش های پاتولوژی

Clinical Data:
A 12-year-old girl with nausea and abdominal pain since one year ago and elevated liver enzymes suspicious for autoimmune hepatitis. see Mehr hosp path report, S-03-9341
Laboratory data: ALT: 105 U/L, AST: 59 U/L, Alk-P: 295 U/L, Total bilirubin: 0.4 mg/dl, Direct bilirubin: 0.2 mg/dl, Blood ceruloplasmin: 20 (reference interval: 20-61), Urine copper 24 hours: 8.4, LKM Ab: Negative, FANA: 1/160 (homogenous pattern)
Diagnostic images: Liver has normal size and parenchymal echogenicity without cystic or solid lesion.
CBD, intrahepatic bile ducts and portal vein have normal diameter.
Clinical impression: Autoimmune hepatitis

Macroscopic Description:
Material Received For Consultation:
From: Iran Mehr and Mehr hospital Path. Lab.
Accession Number of paraffin blocks (and/or slides): 1 paraffin block and 3 slides NO: 03-2476 from Iran Mehr hospital Path. Lab. and 2 slides NO: 03-9341 from Mehr hospital Path. Lab.
Designated as:
1) Liver, core needle biopsy for 2nd opinion (one H&E slide and one trichrome slide: 03-9341)
2) Liver, needle biopsy (Block NO: 03-2476)
Original pathologist's diagnosis:
03-9341 -Chronic hepatitis
- Grade 5/18, stage 2/6 according to modified HAI
-No copper seen in Rhodanine staining and Wilson disease is unlikely, however tissue copper analysis recommended.
03-2476 -Chronic active hepatitis
-The grading and staging according to hepatitis activity index is grade: 3+2+1+3=9/18 stage is 3.

Microscopic Description:
Microscopic examination shows liver tissue with relatively preserved architecture and 14 portal tracts. On portal tracts, moderate/marked infiltration of predominantly lymphocytes admixed with scattered neutrophils and plasma cells is seen (D=3). Continuous interface hepatitis is present in minority of portal tracts (A=3). No bile duct damage or paucity is identified. Moderate ductular proliferation is evident at the periphery of portal tracts. Within lobules, moderate focal necrosis is present (C=2). Focal confluent necrosis is identified (B=1). No steatosis is noted. Received trichrome stain from Mehr hosp:03-9341 shows fibrous expansion of some portal tracts.

Diagnosis:
"Liver", core needle biopsy:
-Liver tissue with hepatic pattern of injury, modified HAI grade: 9/18, stage: 2/6
-Hepatic Copper Concentration: 152 micro.gr/gr dry weight. See our ref: AA-03-00133

Comment:
- Exhausted paraffin block is not adequate for additional histochemical staining.
- Regarding morphological findings, autoimmune hepatitis can be suggested in a proper clinical setting.

تصویربرداری ها

مرکز تصویربرداری پزشکی توسکا
Tooska Medical Imaging Center

تاریخ: 1403/9/14
نام بیمار: خانم ...
سن: 12
کد بیمار: 030914001

همکار گرامی: با سلام
نا ایدش: 4001

MRCP:
Technique: Multiplanar image sequences: Axial T2 FS- Coronal T2 FS- T2 3D Thin Slap (1mm) and Thick slap (5mm) slice resolution.

Findings:

- There is subtle beaded appearance of intra-hepatic bile ducts suspicious for sclerosing cholangitis, further evaluation is recommended.
- Gallbladder is normal in size and location containing inhomogeneous internal content with smooth border.

The common bile duct shows normal position, caliber and length with a homogeneous, fluid-equivalent intraluminal signal.
The pancreatic duct shows normal position, caliber and length with a homogeneous, fluid-equivalent intraluminal signal. »

With Best Regards
M.Noori MD
Radiologist
دکتر مریم نوری
رادیولوژیست

مرکز تصویربرداری پزشکی توسکا
Tooska Medical Imaging Center

لطفًا QR-Code را با موبایل خود اسکن و گزارش پزشکی خود را مشاهده فرمایید.
و یا از طریق سایت زیر ملاحظه فرمایید.
<https://tooskaimaging.com>

نشانی: تهران، چهارراه پاسداران، شهید کلاهدوز (دولت)، بعد از چهارراه اختیاریه، پلاک ۸۱
تلفن جهت نوبت دهی: ۲۲۵۷۶۹۶۶ و ۲۲۵۸۷۴۱۴ و ۲۲۵۴۷۶۳۵
خط ویژه: ۷۴۶۰۵

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