Autoimmune Hepatitis (AIH)

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Bible Class @ October 2021

Untreated AIH is usually fatal

Which of the following patient is your typical AIH patient?

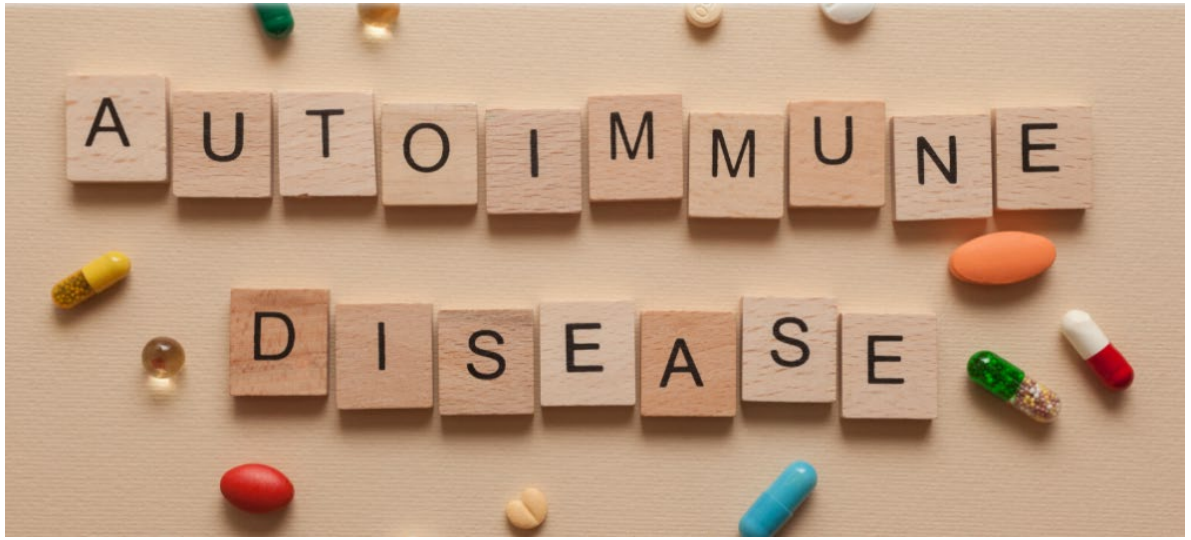
1. 25 yrs old woman

2. 40 yrs old man

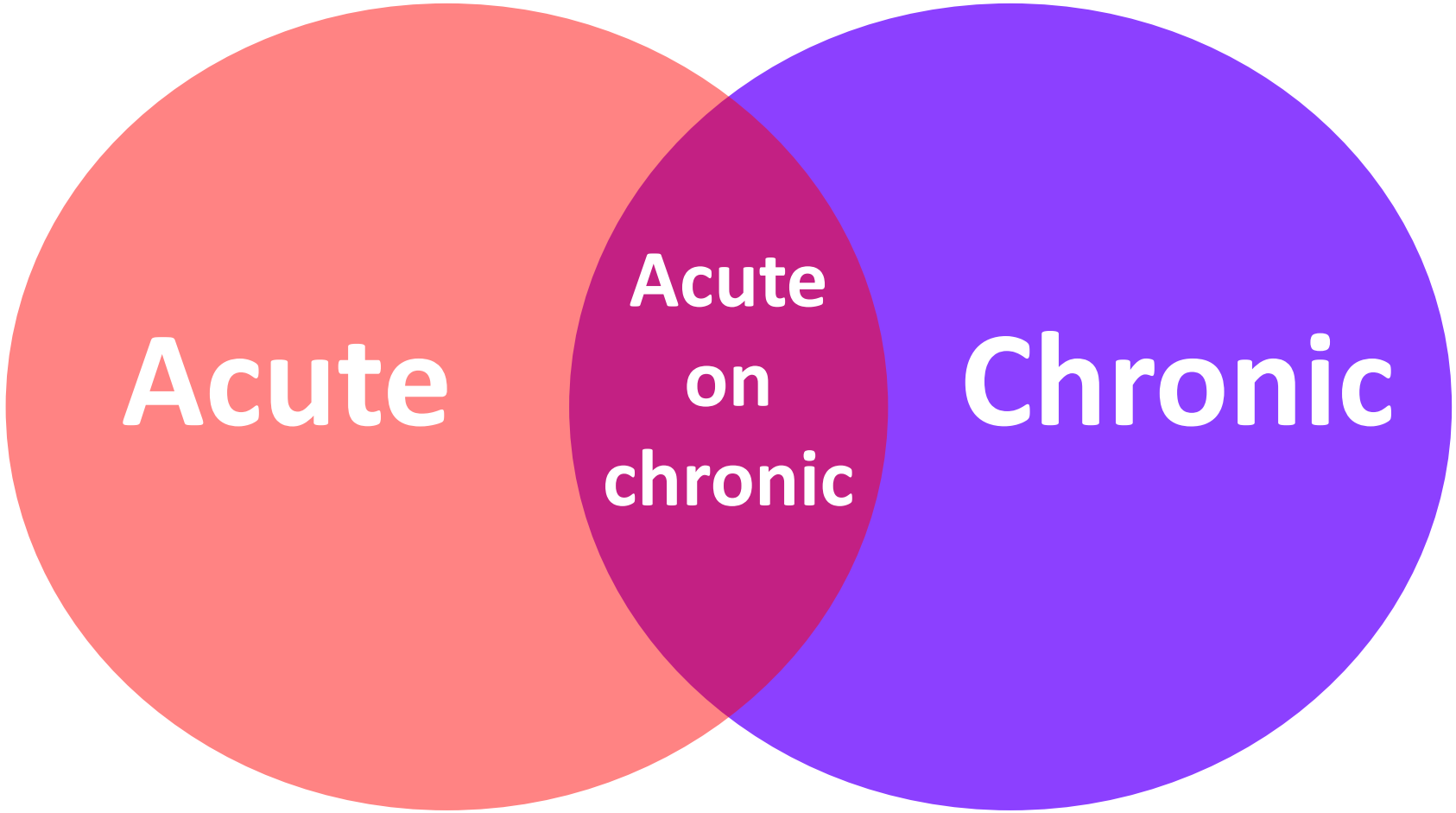
3. 60 yrs old woman

AIH can affect all populations and all age groups

Risk factors are female gender and co-occurring autoimmune diseases



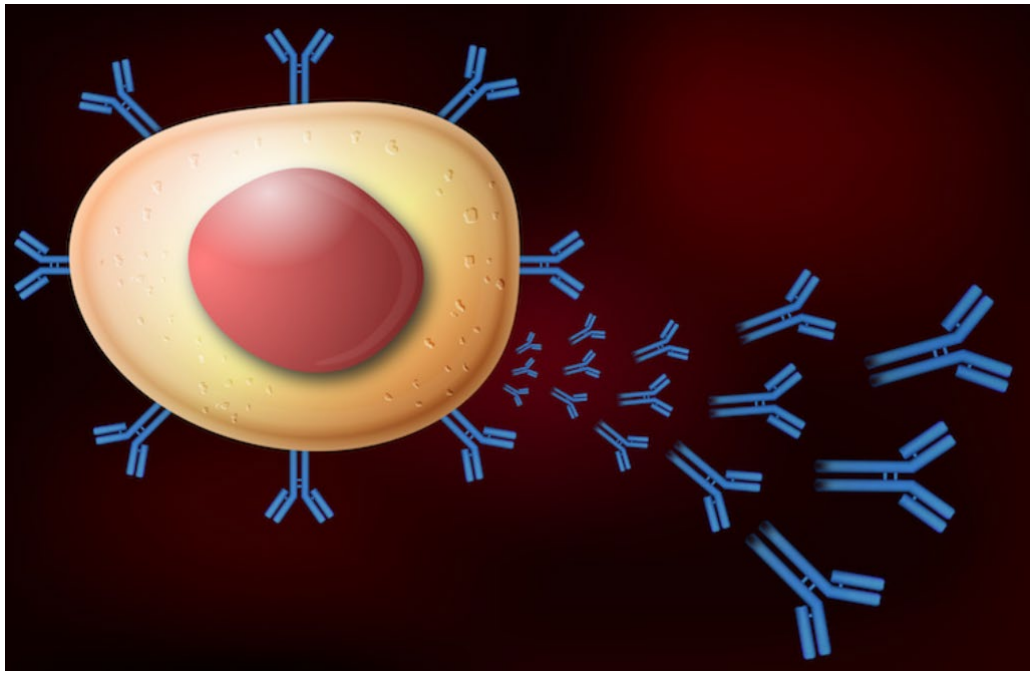
The clinical presentation is heterogeneous



The course of AIH can be fluctuating, which can delay diagnosis and treatment

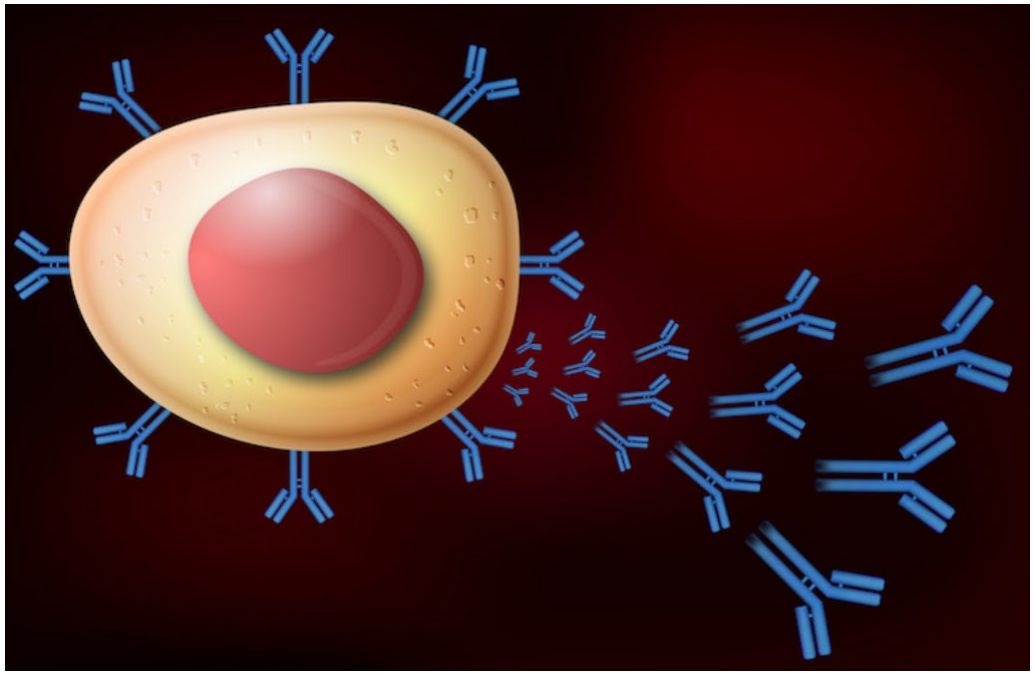
Always think of AIH in patients with elevated transaminases

Which immunoglobulin is important for the diagnosis and follow-up of AIH?



1. IgA
2. IgG
3. IgM

IgG is typically elevated



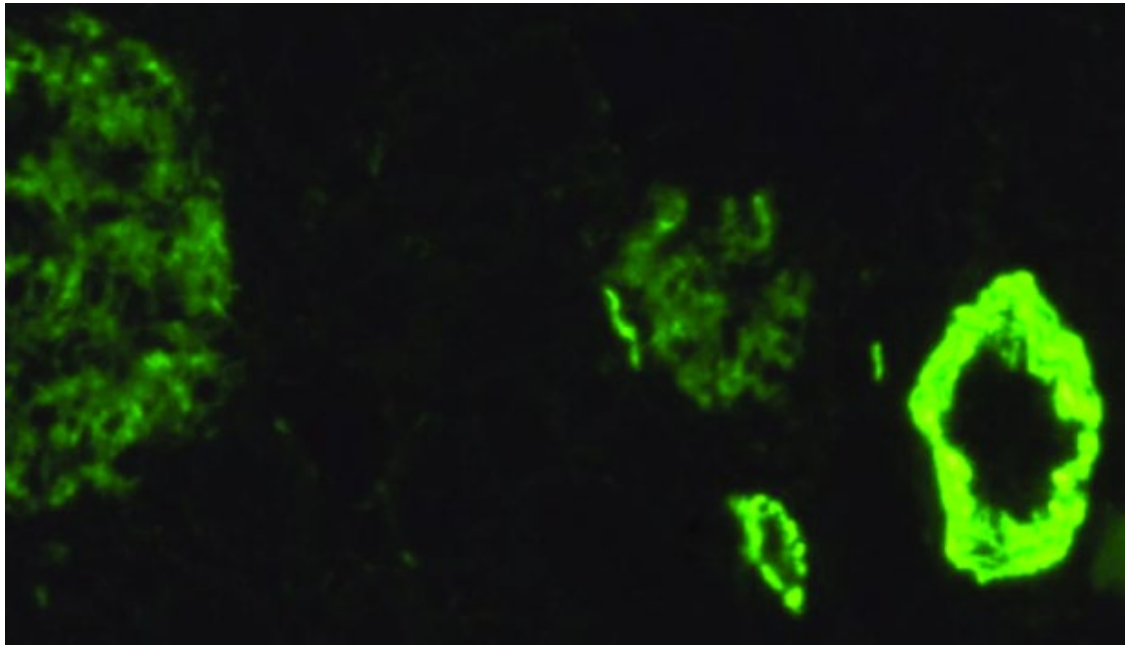
CAVE

IgG is also elevated in patients with cirrhosis

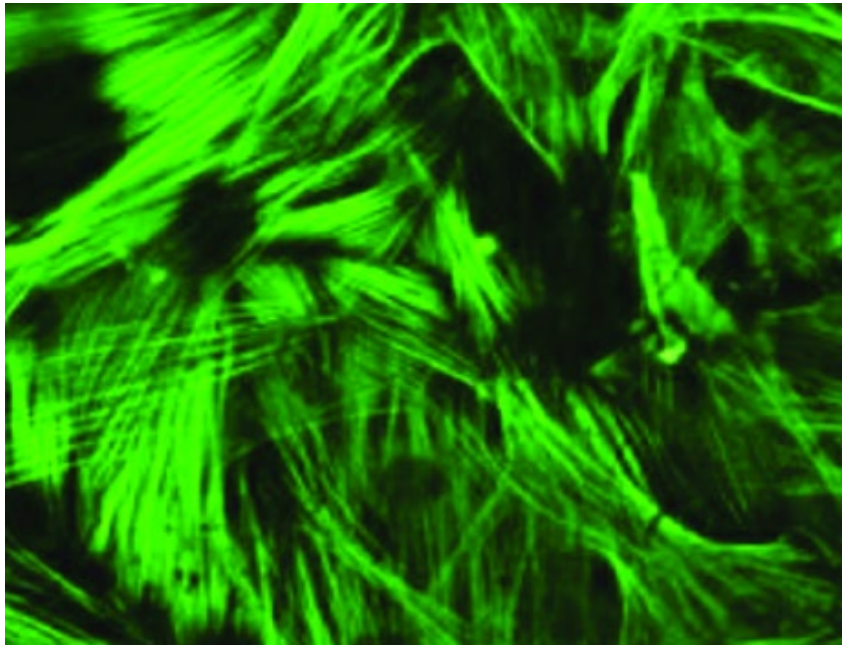
Which antibodies are important in AIH?

1. Anti-nuclear antibodies (ANA)
2. Smooth muscle actin antibodies (SMA)
3. Actin
4. Liver-kidney-microsomal antibodies (LKM)
5. Liver cytosol antibodies 1 (LC-1)
6. Soluble liver antibodies (SLA)

All of these antibodies can indicate the presence of AIH



SMA staining the smooth muscle cells of the mesangium and the vessels

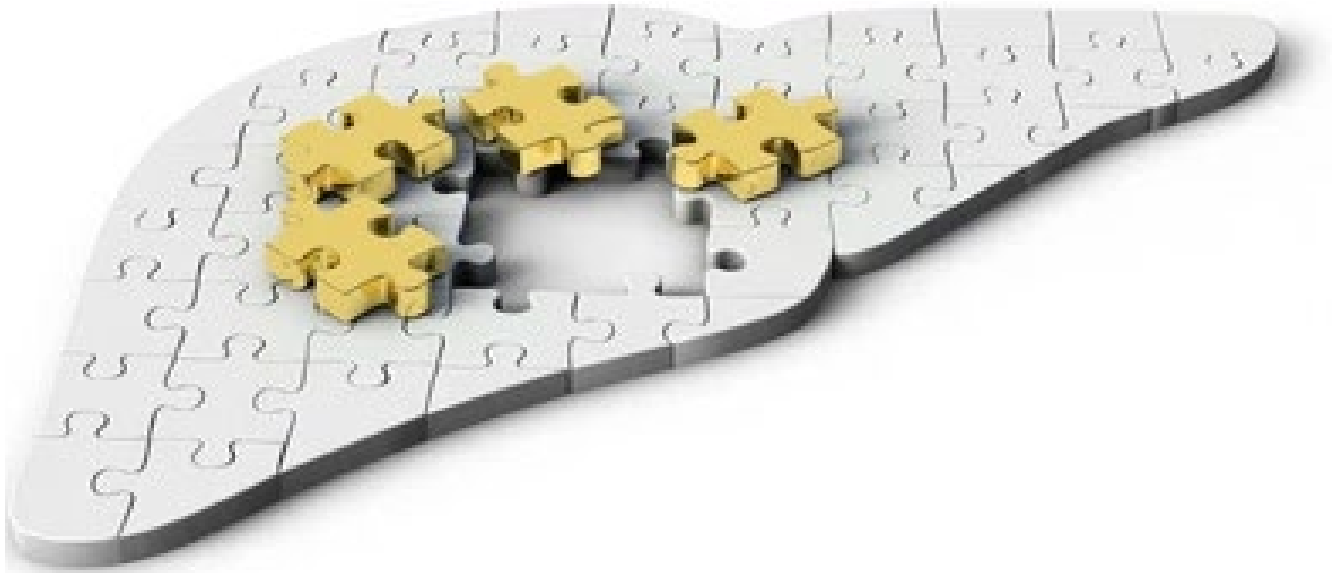


F-Actin pattern on smooth muscle cells

Do you need a liver biopsy for the diagnosis of AIH?

1. No, if history, liver values and autoantibodies are typical and acute viral hepatitis is excluded, biopsy is not mandatory
2. Yes, in any case

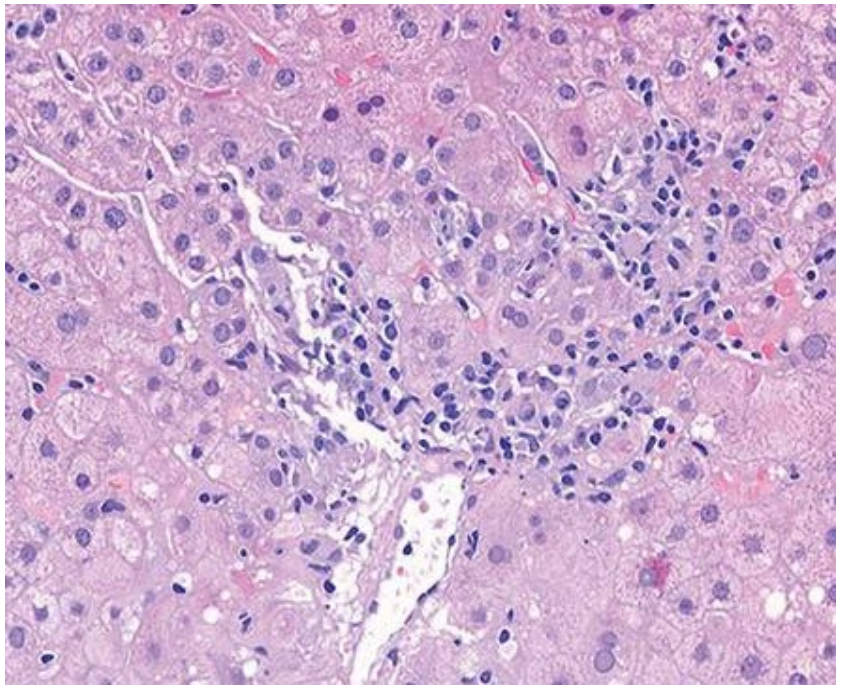
Liver biopsy in AIH is necessary and mandatory



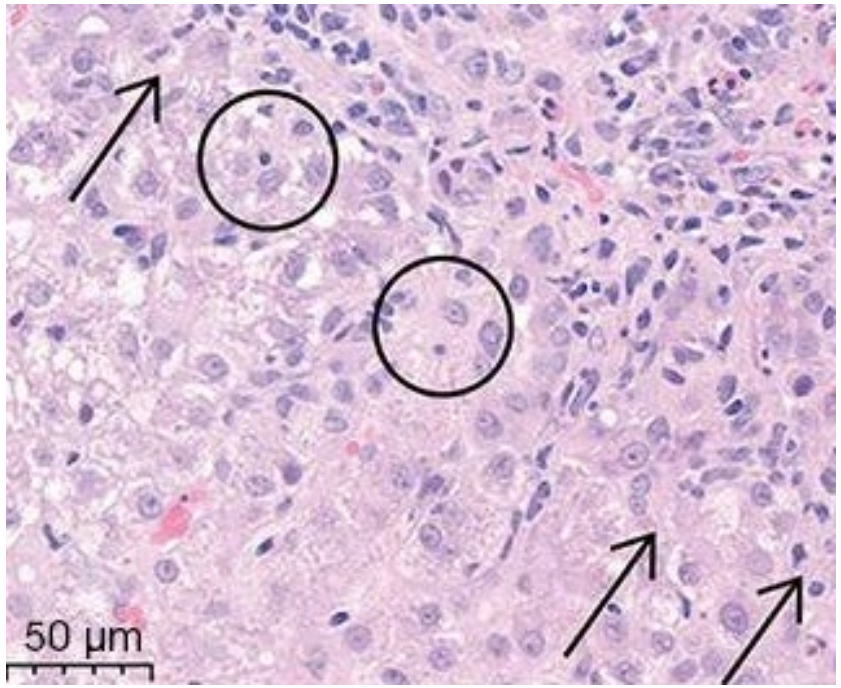
What are the typical signs of AIH in liver histology?

1. Florid duct lesions
2. Ballooning of hepatocytes
3. Plasma-cell rich interface hepatitis
4. Neutrophil-rich interface hepatitis

Plasma cells, zone 3 necrosis and emperipolesis are typical for AIH

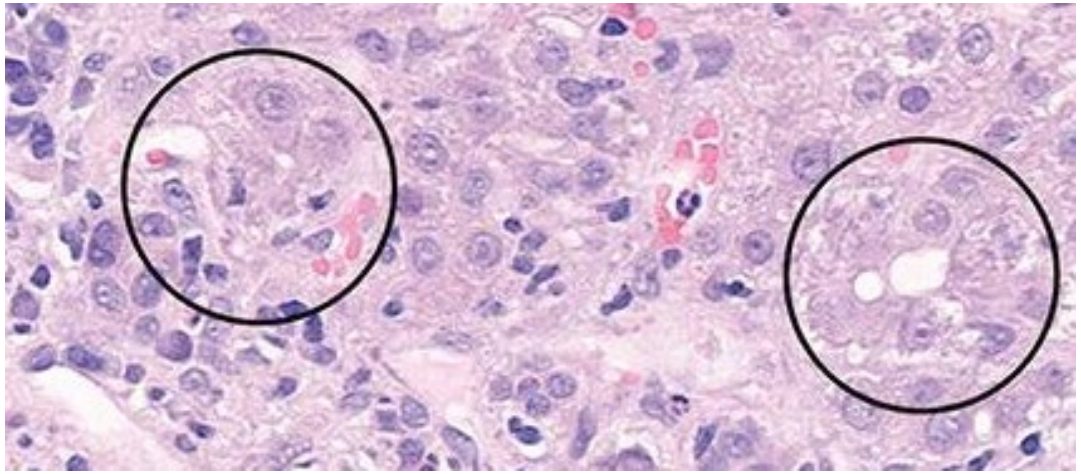


Zone 3 necrosis
Clusters of plasma cells

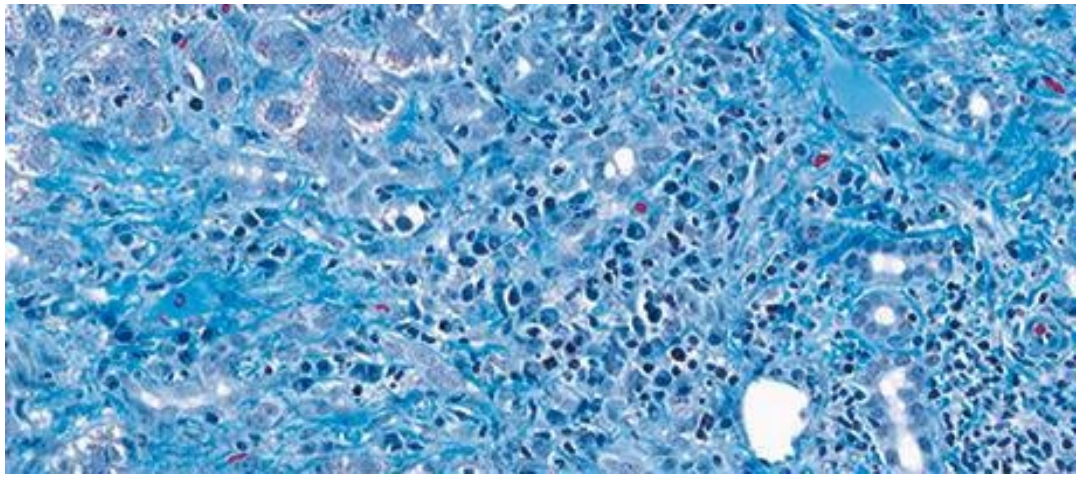


Emperipolesis (circle)
Necrosis of hepatocytes (arrows)

Pseudo rosettes and fibrous collapse are typical signs of AIH



Regeneration of parenchyma with rosetting of hepatocytes

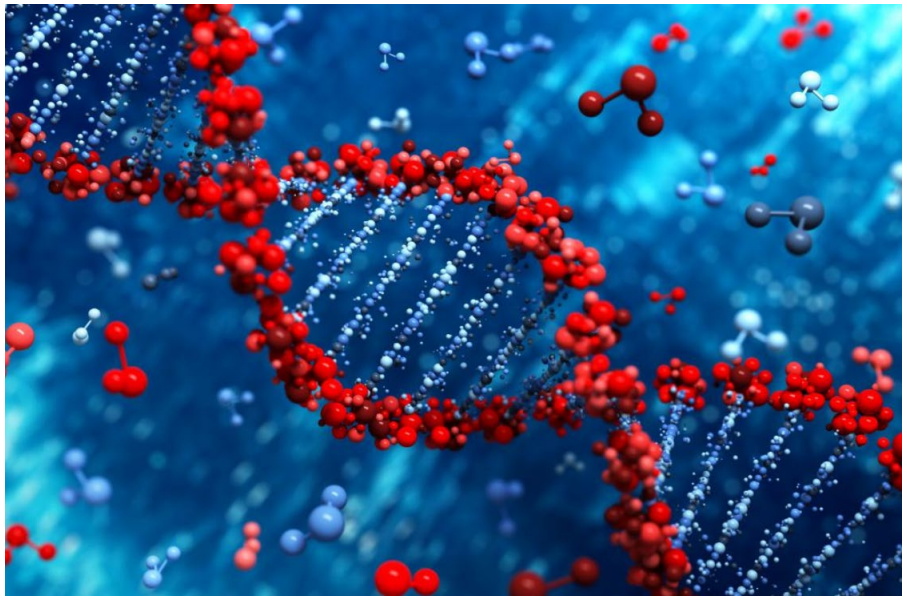


Collagen fibers in the portal tracts

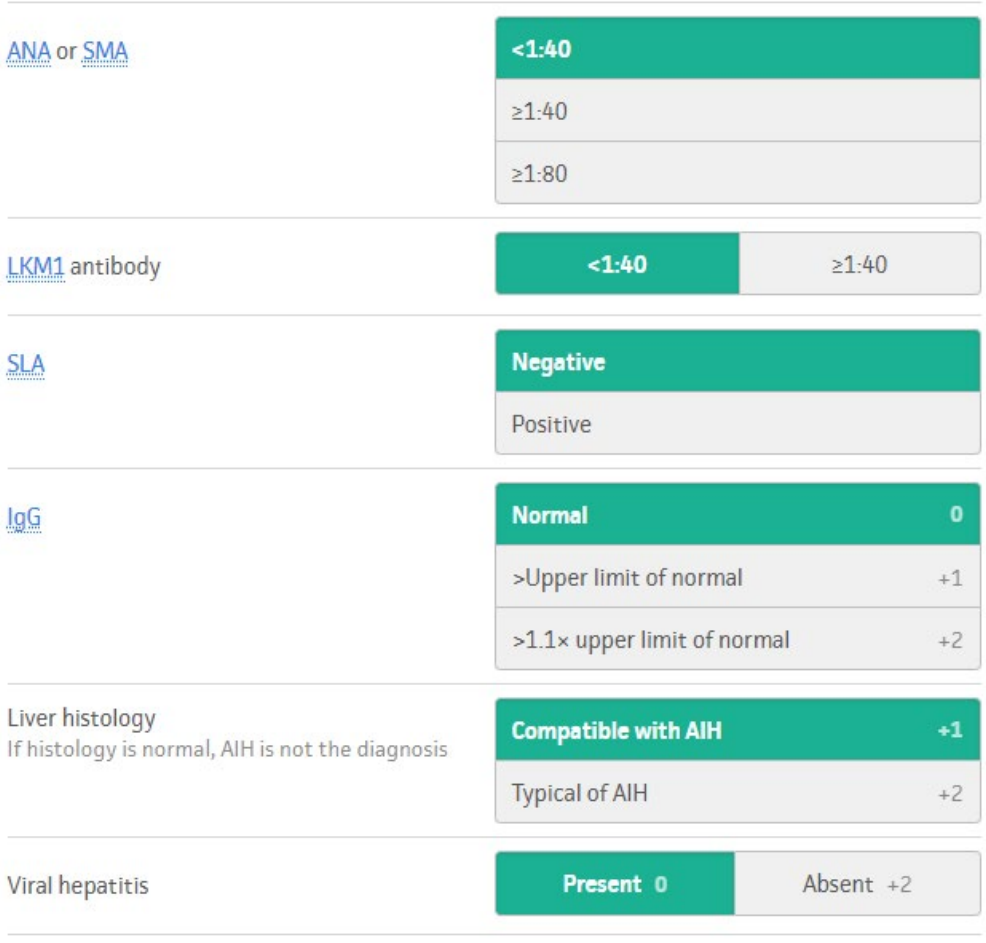
Acute viral hepatitis, drug induced liver injury and M. Wilson are important differential diagnosis

Hepatitis E serology can be false positive in AIH

Always ask for Hepatitis E PCR



Simplified AIH score for the diagnosis of AIH



ANA or SMA	**<1:40**	
	≥1:40	
	≥1:80	
LKM1 antibody	**<1:40**	≥1:40
SLA	**Negative**	
	Positive	
IgG	**Normal**	**0**
	>Upper limit of normal	+1
	>1.1× upper limit of normal	+2
Liver histology If histology is normal, AIH is not the diagnosis	**Compatible with AIH**	**+1**
	Typical of AIH	+2
Viral hepatitis	**Present 0**	Absent +2

≥ 6 points: Probable AIH

≥ 7 points: Definite AIH

[Simplified Autoimmune Hepatitis (AIH) Score - MDCalc]

Case 1: 60 yrs old woman

Went to the doctor for a routine control, felt a bit more tired.

ALAT 1258 U/L

Alk Phos 409 U/L

Bili total 20 umol/l

INR normal

Case 1: Laboratory work-up

ANA 1:80

SMA 1:80

Aktin 16 (Norm <20)

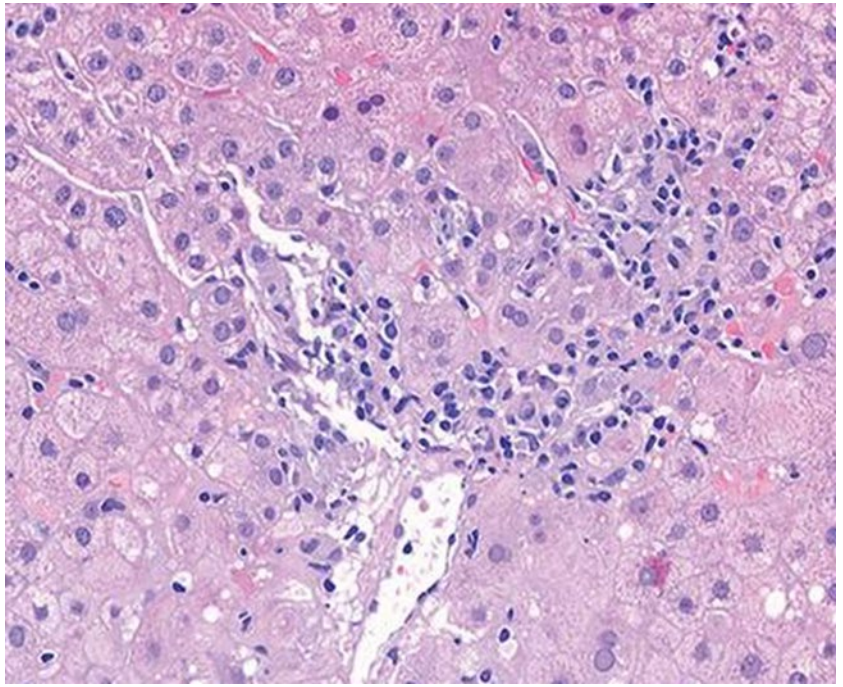
IgG normal

Hepatitis E IgM and IgG positive

HEV PCR negative

Case 1: Liver histology

Compatible but not typical for AIH



Steroid trial for 5 days…

ALAT U/L	1258	1144	1185	1045	1064
Alk Phos U/L	469	374	388	341	320

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ALAT U/L	1258	1144	1185	1045	1064
Alk Phos U/L	469	374	388	341	320

….with no effect

Response to initial corticosteroid therapy is so nearly universal in AIH that it is considered a diagnostic criterion

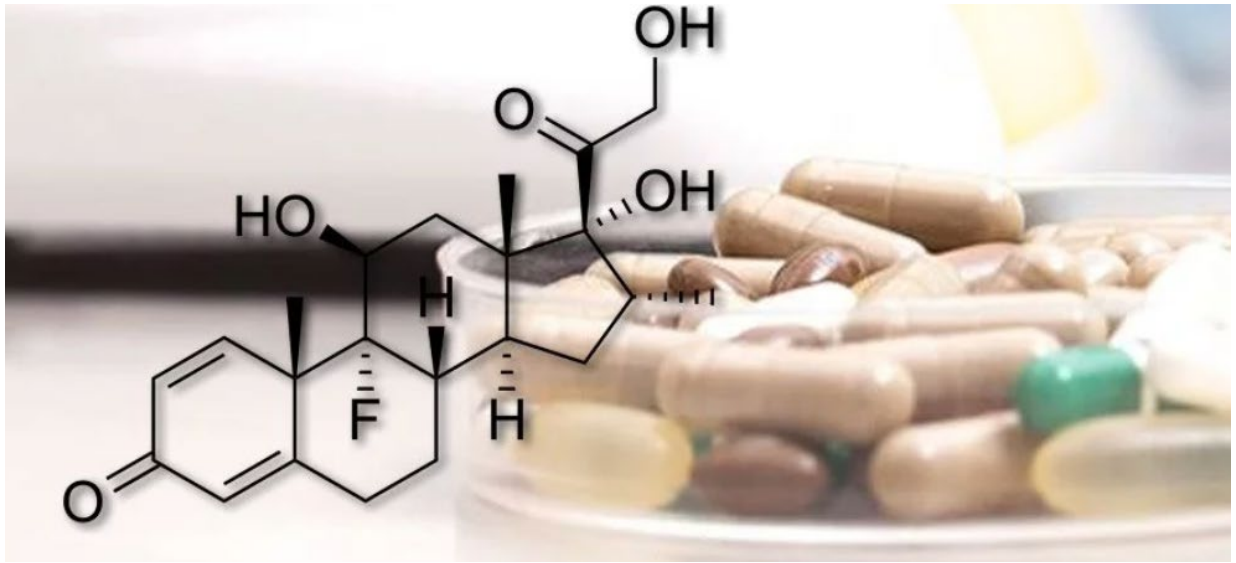
If steroid-response is not good, search again!

	First testing	14 days later
Hepatitis E PCR	negative	positive

What is your initial steroid dose in a cirrhotic patient?

1. 125mg Solumedrol i.v. for 3 days, followed by 1 mg/kgKG Prednison p.o.
2. 0.5-1 mg/kgKG Prednison p.o.
3. Budesonide 9 mg/day p.o.

Most guidelines advise a dose between 0.5-1mg/kgKG with individual tapering



The goal is normal transaminases and IgG…

…and steroid-free long-term treatment!

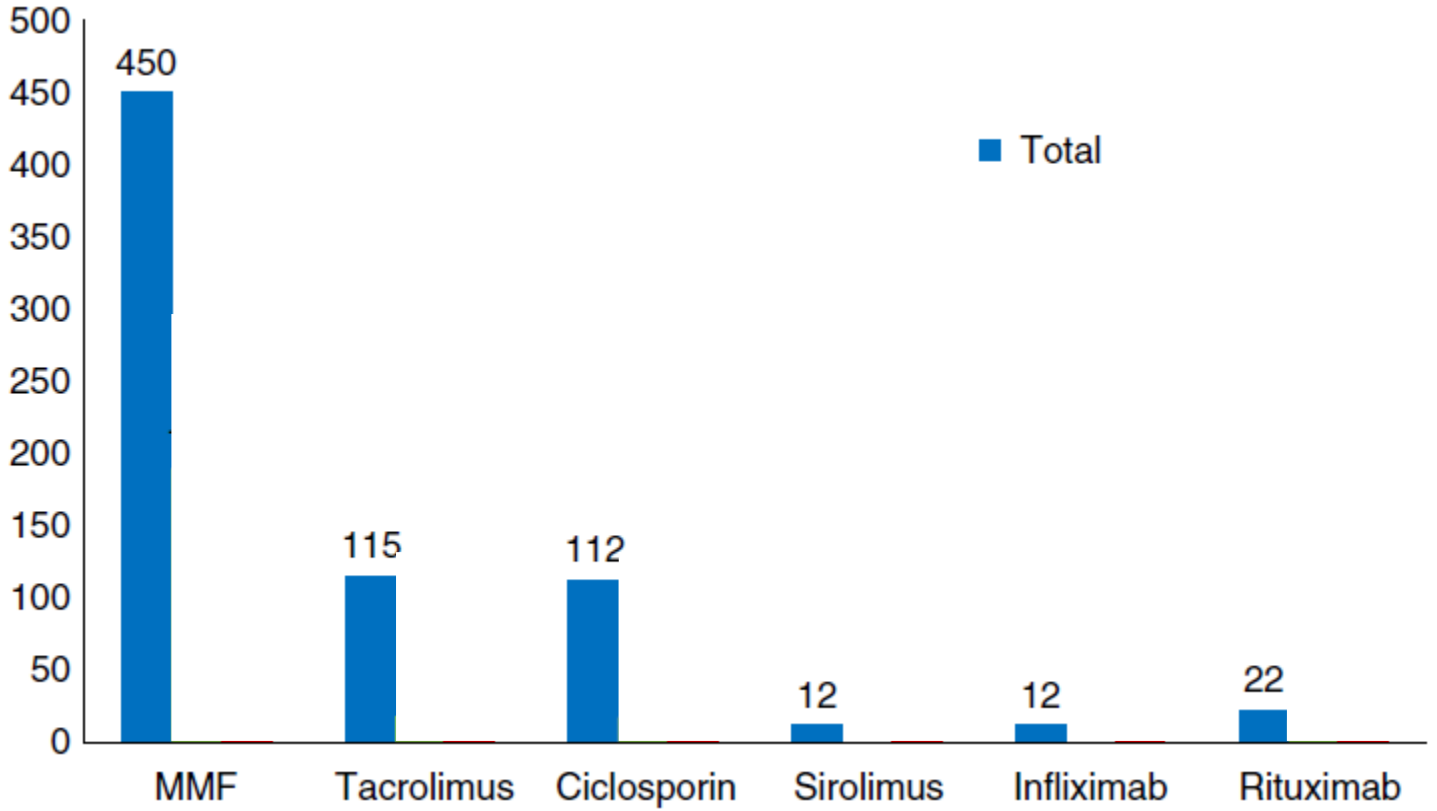
First-line maintenance treatment is Azathioprine

Start with 50mg/d and increase the dose to 1-2mg/kgKG

What is your 2nd line treatment of choice?

1. Cyclosporin A
2. Mycophenolate mofetil
3. Rituximab

Real world use of second line treatment in AIH



Expert clinical management of AIH
Aliment Pharma Ther 2017

Anti-B cell activating factor (BAFF) and anti-TNF alpha biologicals are currently tested in clinical trials

Case 2: 52 yrs old patient with loss of follow-up and recurrence of AIH

Active Sjögren's syndrome
Chronic kidney Disease of unknown cause

Sister with systemic lupus

She has a past history of intolerance to AZA, MMF and Rituximab

Contraindication for Calcineurin-Inhibitors and anti-TNF

Our choice was belimumab, an anti-BAFF molecule

She has been in remission on belimumab monotherapy for 1.5 years.

Positive effects on sicca, arthralgias and fatigue.

Your patient has been in biochemical remission on treatment for three years. You consider stopping the treatment.

Do you perform a liver biopsy to proof histological remission?

You consider stopping the treatment.

Do you taper the treatment or stop directly?

the end