Case presentation

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- Egyptian male patient, 49 years old
- Diagnosed with chronic HCV 10 months ago
- History of contact with canal water
- No history of alcohol consumption
- Complains of fatigue but denies any increase in abdominal girth, melena or hematochezia
- Occasional symptoms of bronchial asthma (controlled on ttt)

Physical examination results:

- BMI: 26
- no jaundice
- absence of ascites
- mild splenomegaly

Abdominal ultrasound:

- Spleen 16 cm
- No ascites

Recent laboratory results:

ALT: 54 IU/L (49)

AST: 62 IU/L (45)

Albumin: 4 g/dL

INR: 1

Bilirubin: 0.9 mg/dL

Platelets: 135,000

Serum creatinine: 1 mg/dL

HCV RNA by PCR = 845.000 IU

- The patient came to the clinic asking for advice about treatment of his condition but he did not agree to undergo liver biopsy

- Fibroscan was performed, yielding score of 24 KPas (F4)

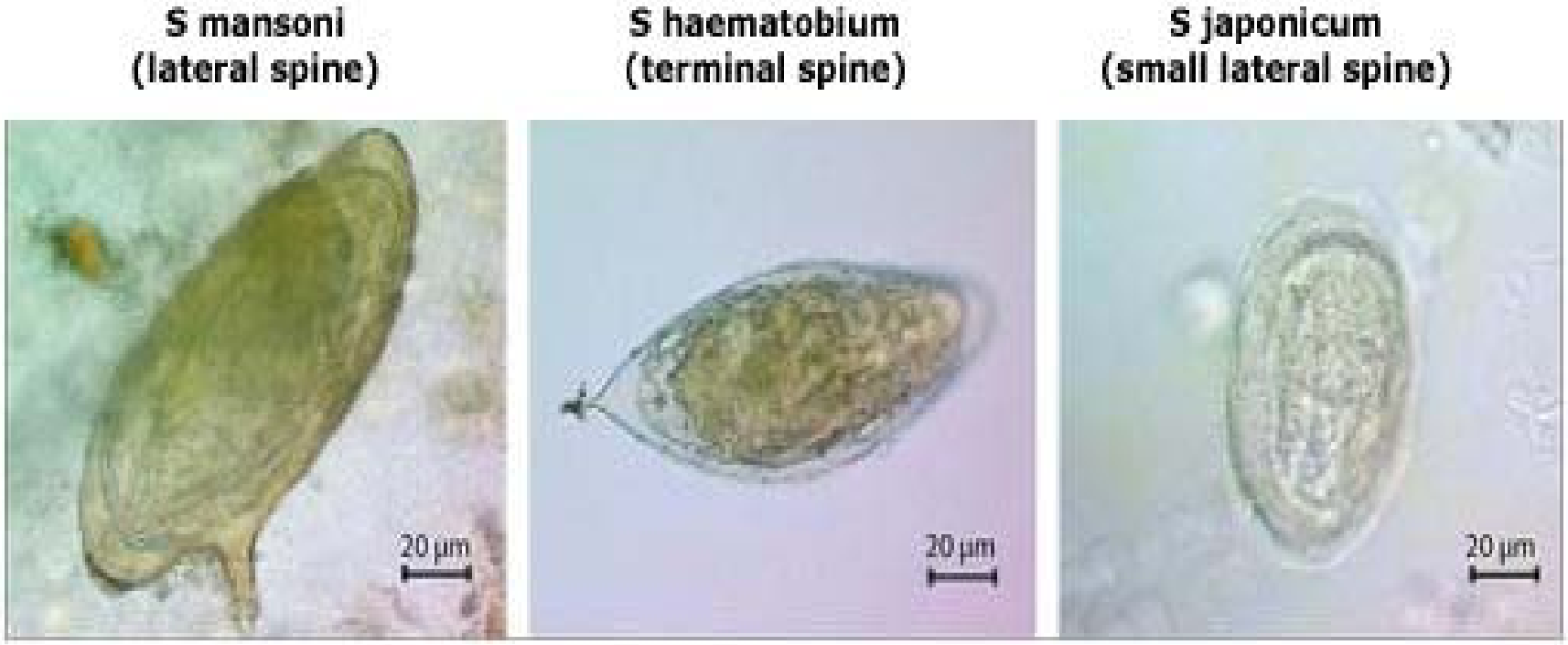
Serology for Schistosoma Antibodies was positive

What does this mean?

- PAST HISTORY OF SCHISTOSOMIASIS
- ACTIVE SCHISTOSOMIASIS

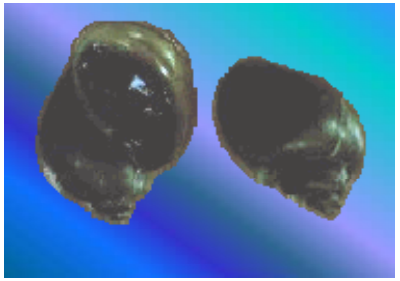
- None of serologic tests for schistosomal antibodies can distinguish between a past infection and active disease
- Two gut associated parasite proteins, circulating antigens, are present in blood during active infection
- Detection of these antigens is a useful way to identify current infection

Demonstration of parasite eggs in stool or urine is often used for making diagnosis of active schistosomiasis and is required for species identification, however, sensitivity of microscopy may be low, especially in light infections. Fresh examination of rectal snips obtained by sigmidoscopy is more accurate.



Schistosomiasis

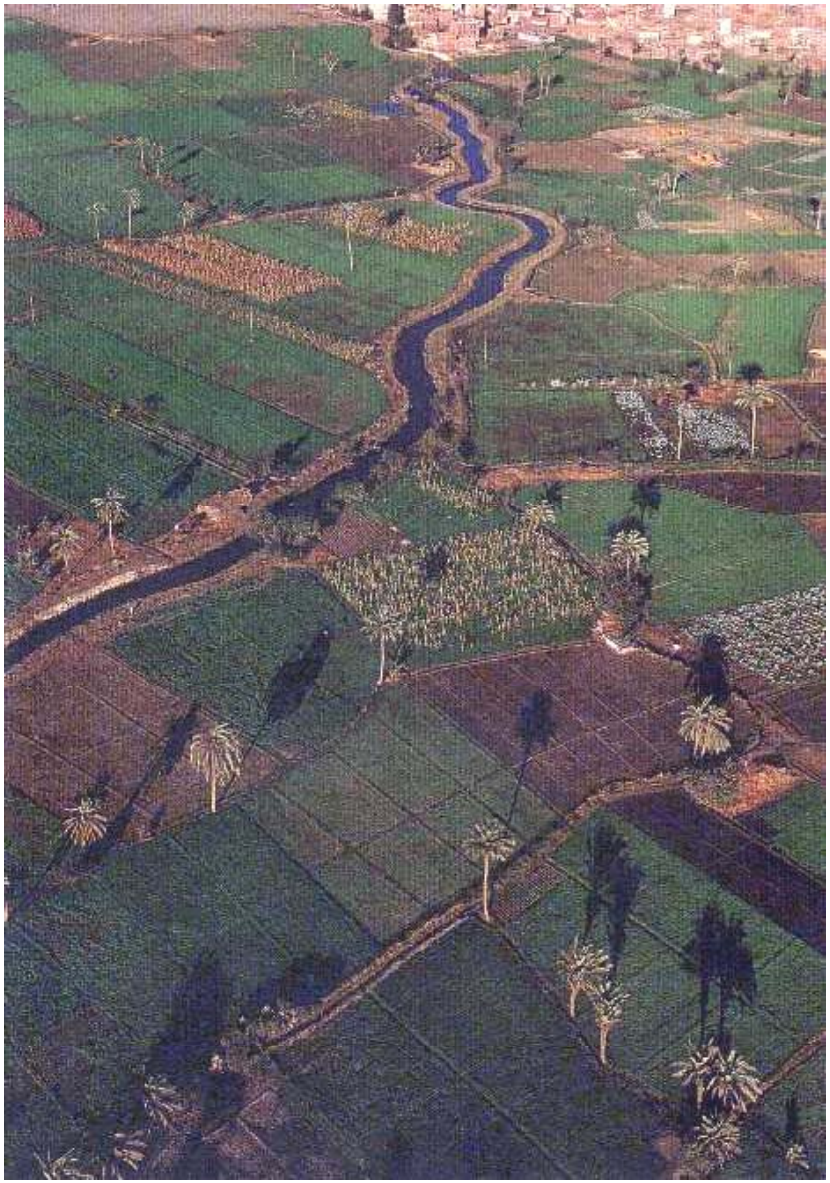
- Trematode parasitic infection
- Intermediate host: water snails



- Debilitating disease, severity depends on "worm load"

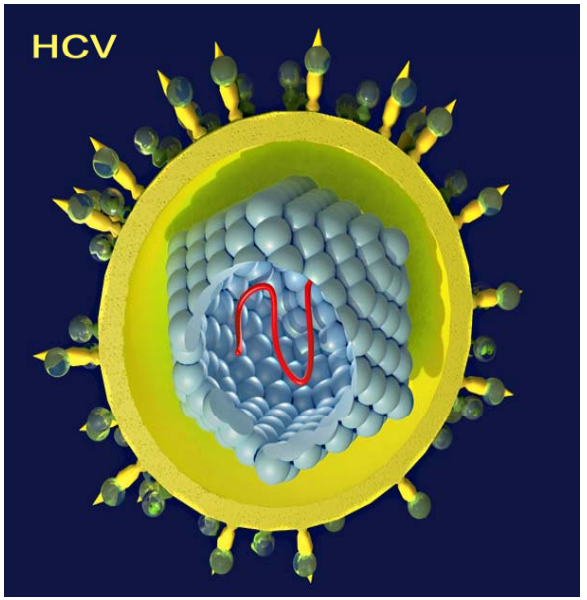
Theodor Bilharz (1825-1862) first described the trematode working at Kasr El Ainy hospital in Cairo in 1851

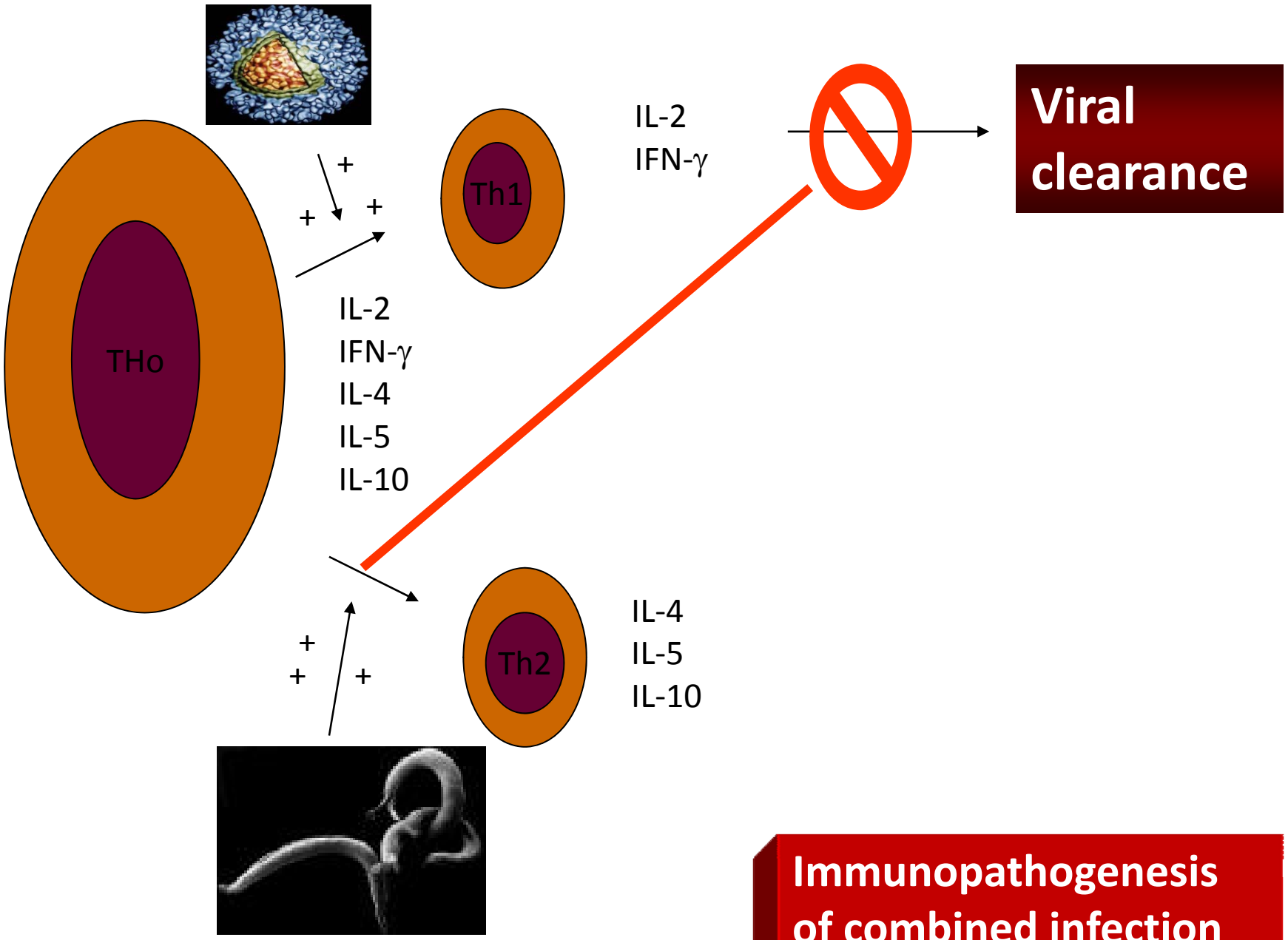
Life cycle of schistosomiasis



- Snail habitat: irrigation canals, lakes, ponds
- Humans get infected through skin contact with water
- Humans excrete schistosomal eggs in urine or stool into water, keep-up life cycle of parasites

Interaction Between Schistosomiasis and HCV




THo
Th1
Th2
+
+
+
IL-2
IFN-γ
IL-2
IFN-γ
IL-4
IL-5
IL-10
IL-4
IL-5
IL-10
Viral clearance
Immunopathogenesis of combined infection

Schistosomiasis as an important determining factor for the response of Egyptian patients with chronic hepatitis C to therapy with recombinant human α-2 interferon

Yehia El-Shazly , Abdel-Fatah Abdel-Salam , Aisha Abdel-Ghaffar , Zakaria Mohran and Saleh M. Saleh

EL-Shazly et al., (1994); reported low rate of response in combined infection than in HCV alone.

Trans Royal Soc of Trop Med & Hyg 1994: 88,2 229-231

Management of Chronic Hepatitic C Virus Genotype 4 Infection

Gamal Esmat, Maissa El Raziky

disease[47]. Dual infections of schistosomiasis and viral infections display significant influences on host immune reactions including cytokine shift pattern alteration[45]. It also has an impact on response to anitiviral therapy. Thus screening for active schistosomiasis and treating the infection prior to initiating IFN/ribavirin therapy is mandatory.

Arab J Gastroenterol 2007; 8(2): 38-43

TREATMENT OF SCHISTOSOMIASIS

- The treatment of choice for all species is praziquantel
- It leads to lincreased permeability to calcium ions --» muscular contractions and paralysis of adult worms --» dislodgement from their sites and subsequent expulsion by peristalsis
- 40 mg/kg /BW in one or two doses (tablet=600 mg)

Upper GI endoscopy revealed medium-sized esophageal varices with no red signs

How would you manage the varices in this patient?

- NONSELECTIVE β-BLOCKERS
- INJECTION SCLEROTHERAPY
- VARICEAL BAND LIGATION

Prevention and Management of Gastroesophageal Varices and Variceal Hemorrhage in Cirrhosis

Guadalupe Garcia-Tsao,[1] Arun J. Sanyal,[2] Norman D. Grace,[3] William Carey,[4] and the Practice Guidelines Committee of the American Association for the Study of Liver Diseases, the Practice Parameters Committee of the American College of Gastroenterology

9. In patients with medium/large varices that have not bled and are not at the highest risk of hemorrhage (Child A patients and no red signs), nonselective β-blockers (propranolol, nadolol) are preferred and EVL should be considered in patients with contraindications or intolerance or non-compliance to β-blockers (Class I, Level A).

Revising consensus in portal hypertension: Report of the Baveno V consensus workshop on methodology of diagnosis and therapy in portal hypertension

Roberto de Franchis*, On behalf of the Baveno V Faculty [1]

Patients with medium-large varices

- Either NSBB or endoscopic band ligation (EBL) is recommended for the prevention of the first variceal bleeding of medium or large varices (1a; A).
- The choice of treatment should be based on local resources and expertise, patient preference and characteristics, side effects, and contra-indications (5;D).
- Carvedilol is a promising alternative (1b;A) which needs to be further explored.
- Shunt therapy, endoscopic sclerotherapy, and isosorbide mononitrate alone should not be used in the prophylaxis of first variceal bleeding (1a;A).

Is this patient candidate for peg-IFN and ribavirin?

- YES
- NO

What will be the dose of ribavirn?

- A) < 11 mg/KG/BW
- B) 13-15 mg/KG/BW
- C) >15 mg KG/BW

Probability of achieving SVR in our patient (liver cirrhosis and genotype 4) is:

- SVR 90%
- SVR 60%
- SVR 30%

Journal of Medical Virology 81:1576–1583 (2009)

Response to Pegylated Interferon Alfa-2a and Ribavirin in Chronic Hepatitis C Genotype 4

Hesham El Makhzangy,[1] Gamal Esmat,[1] Mohamed Said,[1] Maissa ElRaziky,[1] Soheir Shouman,[2] Rasha Refai,[3] Claire Rekacewicz,[4] Rita Raafat Gad,[3] Nicolas Vignier,[4] Mohamed Abdel-Hamid,[5,6] Khaled Zalata,[7] Pierre Bedossa,[8] Stanislas Pol,[9] Arnaud Fontanet,[4]* and Mostafa K. Mohamed[3]

Conclusions

In conclusion, sustained virological response in genotype 4 Egyptian patients treated with PEG-IFN alfa-2a and ribavirin was estimated around 60%, intermediate between sustained virological response observed in genotype 1 and genotype 2–3 patients in Western countries. The early virological response (week 4 or week 8) should be investigated as a criterion to decide whether the patient may benefit from a shorter duration of therapy.

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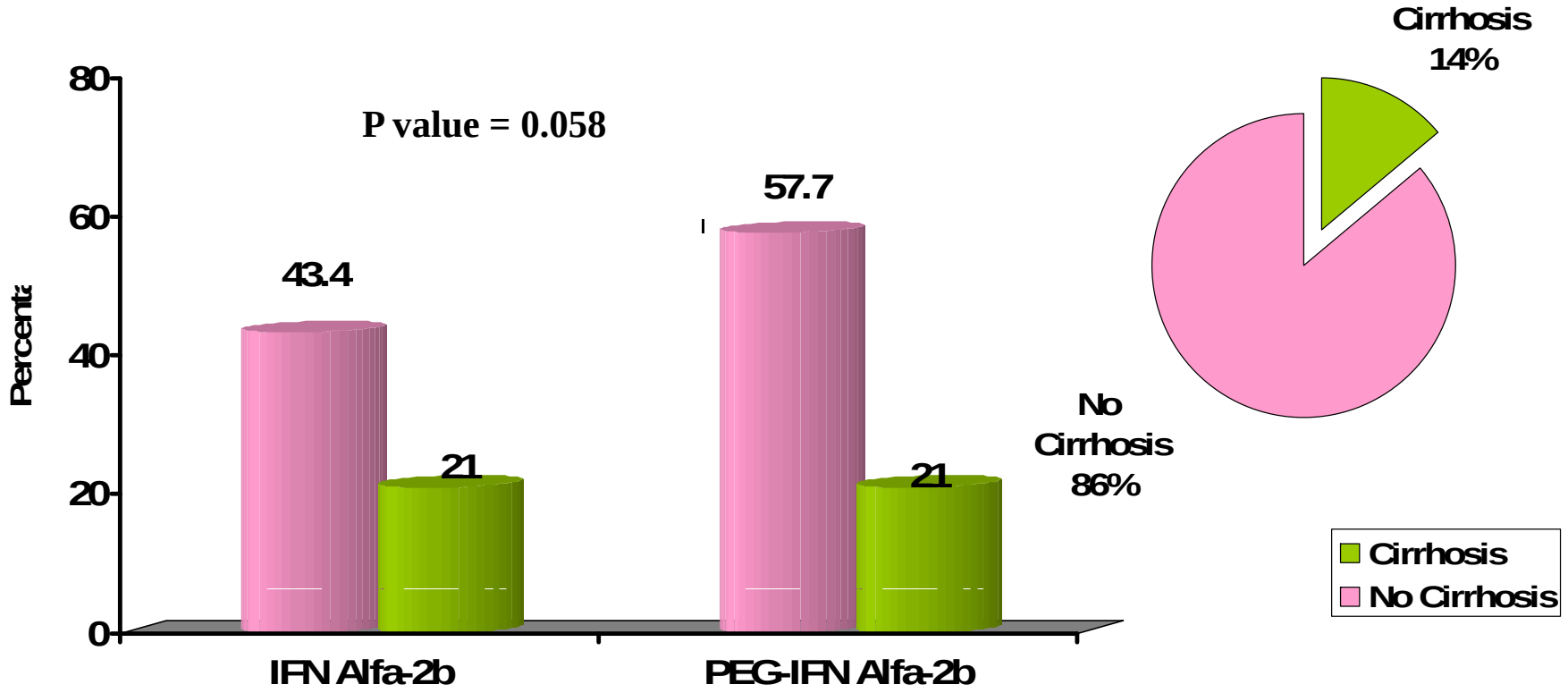
CLINICAL STUDIES

Predictors of a sustained virological response in patients with genotype 4 chronic hepatitis C

Rita Raafat Gad[1], Sylvia Males[2], Hesham El Makhzangy[3], Soheir Shouman[4], Aboubakr Hasan[4], Mohamed Attala[4], Mostafa El Hoseiny[1], Khaled Zalata[5], Mohamed Abdel-Hamid[6,7], Arnaud Fontanet[2], Mostafa K. Mohamed[1] and Gamal Esmat[3]

Conclusions: Among genotype 4 chronic hepatitis C patients, severe fibrosis, severe steatosis, treatment with standard interferon and a high serum AFP level were all negatively associated with SVR. Pretreatment serum AFP level should be considered in the routine assessment of factors predictive of a treatment response.

Impact of cirrhosis on SVR in Chronic Hepatitis



Esmat et al, UEGW, 2003, Madrid

Pegylated Inerferon α-2b in treatment of chronic HCV genotype 4

Authors	Country	PEG-INF dose	Ribavirin dose	No.	Percent of cirrh.	Total SVR	SVR in cirrh.	SVR in non cirrh.s
Esmat et al Gut 2003.	Egypt	Fixed 100µg /week	600-1000 mg/day	100	15%	45%	21%	58%
Alfaleh et al Liver Int.2005.	Saudi Arabia	Fixed 100µg /week	800 mg/day	48	22%	44%	NA	NA
Hassan et al AJG 2005.	Kuwait	1.5µg /kg/week	1000-1200 mg/day	66	20%	68%	29%	84%
Derbala et al J V,Hep 2006.	Egypt	1.5µg /kg/week	800-1200 mg/day	30	27%	33%	13%	41%

After 4 weeks HCV PCR was negative,Shall we treat this patient for

- A) 24 weeks
- B) 36 weeks
- C) 48 weeks

SVR was achieved, is regular screening for HCC Is required later on?

- YES
- NO

- Successful antiviral therapy in patients with HCV-related cirrhosis may decrease risk for HCC.
- Several studies have examined the effect of antiviral therapy on risk for HCC in HCV-infected patients.

- There is a meta-analysis of 20 studies, 20 controlled trials, only 3 of them were randomized, containing approximately 4600 patients with HCV-related cirrhosis.

- This meta-analysis found a decreased incidence of HCC in treated patients in 19 of the 20 studies, but it was significant only in 13.
- The pooled estimate was possibly a small reduction in risk, 12.2%. But if you really clear the virus, then it's 19.1%, so there is some moderate risk reduction with treatment.

Thank you

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