

EVALUATION OF LIVER FIBROSIS IN HAEMOPHILIA PATIENTS WITH HCV INFECTION USING TRANSIENT ELASTOGRAPHY - FIBROTEST.

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OBJECTIVES

- Virtually all patients with severe hemophilia treated with non-virally inactivated plasma products before 1992 were infected with HCV and suffer from chronic hepatitis C.
- After two decades of HCV infection hepatitis has become a major cause of morbidity and mortality due to the progression in the liver fibrosis, cirrhosis and even hepatocellular carcinoma.
- The limitations of liver biopsy in hemophilia have prompted the use of non-invasive methods for the measurement of liver fibrosis in HCV infected hemophilia persons.
- Transient elastography by Fibroscan represents a novel reliable and safe technique to estimate the degree of hepatic fibrosis by measuring liver stiffness.

AIM

- To review the prevalence of HCV infection in Slovakia
- in the whole hemophilia A/B population
 - in severe hemophiliacs treated with non-virally inactivated products <1992
- To evaluate
- the metabolic activity in HCV infected patients according to viremia
 - outcomes of antiviral therapy in patients treated at our centre
 - liver fibrosis in hemophilia with chronic HCV infection measured by the transient elastography - fibroscan.

METHODS

- The data on the prevalence of the HCV infection in Slovakia were extracted from the database of the National Registry of Hemophilia
- Metabolic activity of chronic hepatitis was evaluated in 101 anti-HCV +ve pts according to viremia (RNA+ve evaluated before antiviral therapy)
- The outcome of the antiviral therapy (AVT) with PEG-IFN and Ribavirin was evaluated in 42 patients treated at our centre
- Liver fibrosis investigation by fibroscan was performed in 37 severe hemophilia patients with ≥ 20 yrs HCV infection. Liver fibrosis is classified as F0-none, F1-minimal, F2- mild, F3- severe and F4- cirrhosis. The „cut off“ for fibrosis (F≥2) was ≥7.1 kPa.

RESULTS

Tab1. Prevalence of HCV infection in hemophilia A/B persons in Slovakia

Patients group	Anti- HCV+ n (%)
All hemophilia A/B persons	150 / 550 (27%)
Severe, born <1992	126 / 152 (80%)
Spontaneously cleared RNA	18 / 126 (14%)
PCR HCV RNA +ve	108 / 126 (86%)
Genotype 1	104 / 108 (96%)

Fig 1. Metabolic activity of chronic hepatitis in 101 anti-HCV pos-ve patients according to viremia. (ALT 0.7 µkat/L = upper limit of normal value)

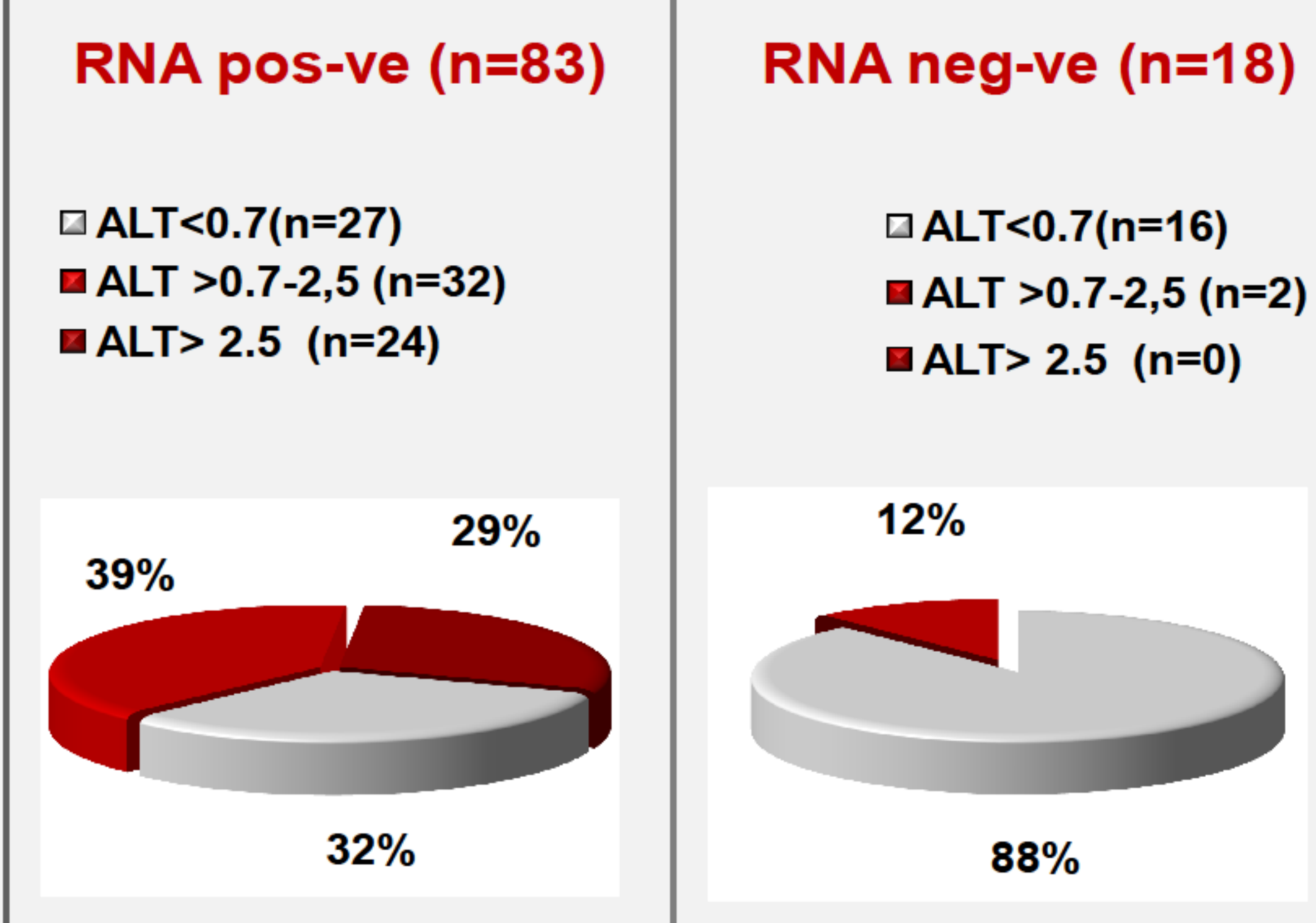
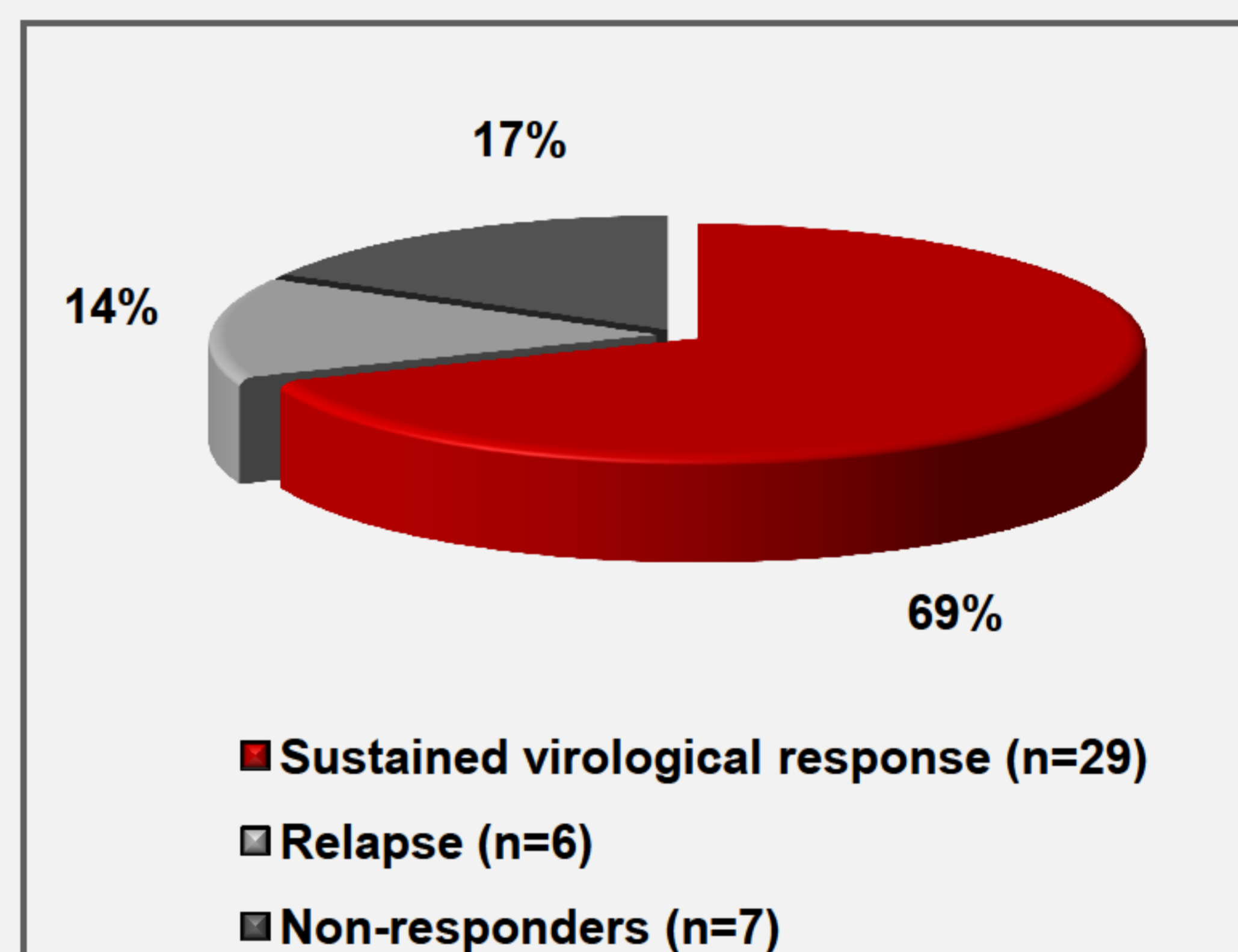


Fig 2. Outcome of antiviral therapy in 42 hemophilia patients treated with Peg-IFN and Ribavirin



Tab 2. Fibroscan investigation in 37 hemophilia AB anti HCV+ve patients. Patient group characteristics.

Group characteristic	
All patients tested by Fibroscan (n)	37
Age (median, range) – yrs	40 (21- 64)
Patients RNA negative	
Spontaneously cleared virus	6
Sustained virological response (SVR)	17
Patients RNA positive	
Relapsed & non-responders to AVT	9
RNA positive not treated with AVT	5

Fig 3 The results of Fibroscan in the whole group of 37 HCV infected hemophilia patients investigated

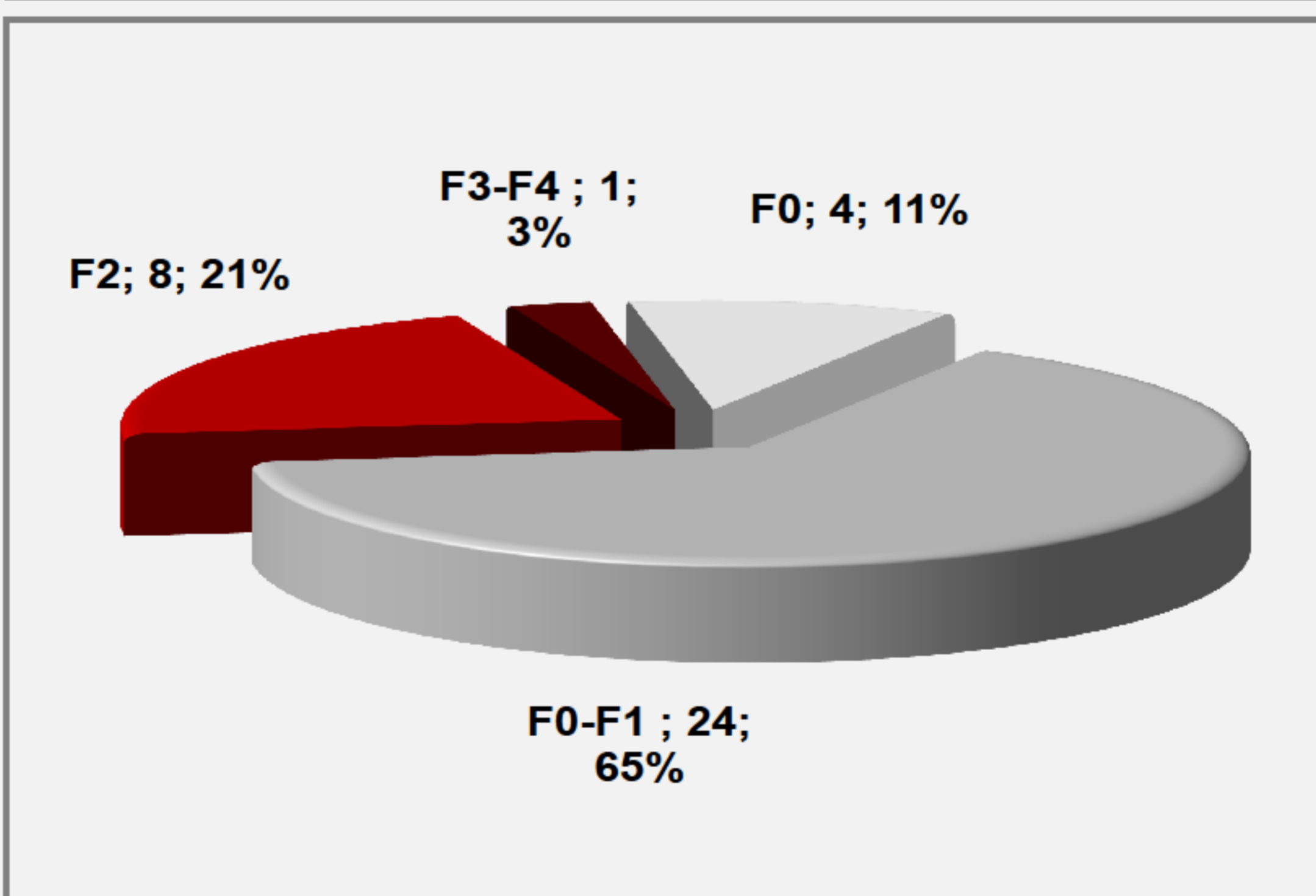


Fig 4 The degrees of fibrosis according to the HCV RNA positivity (number of pts /%)

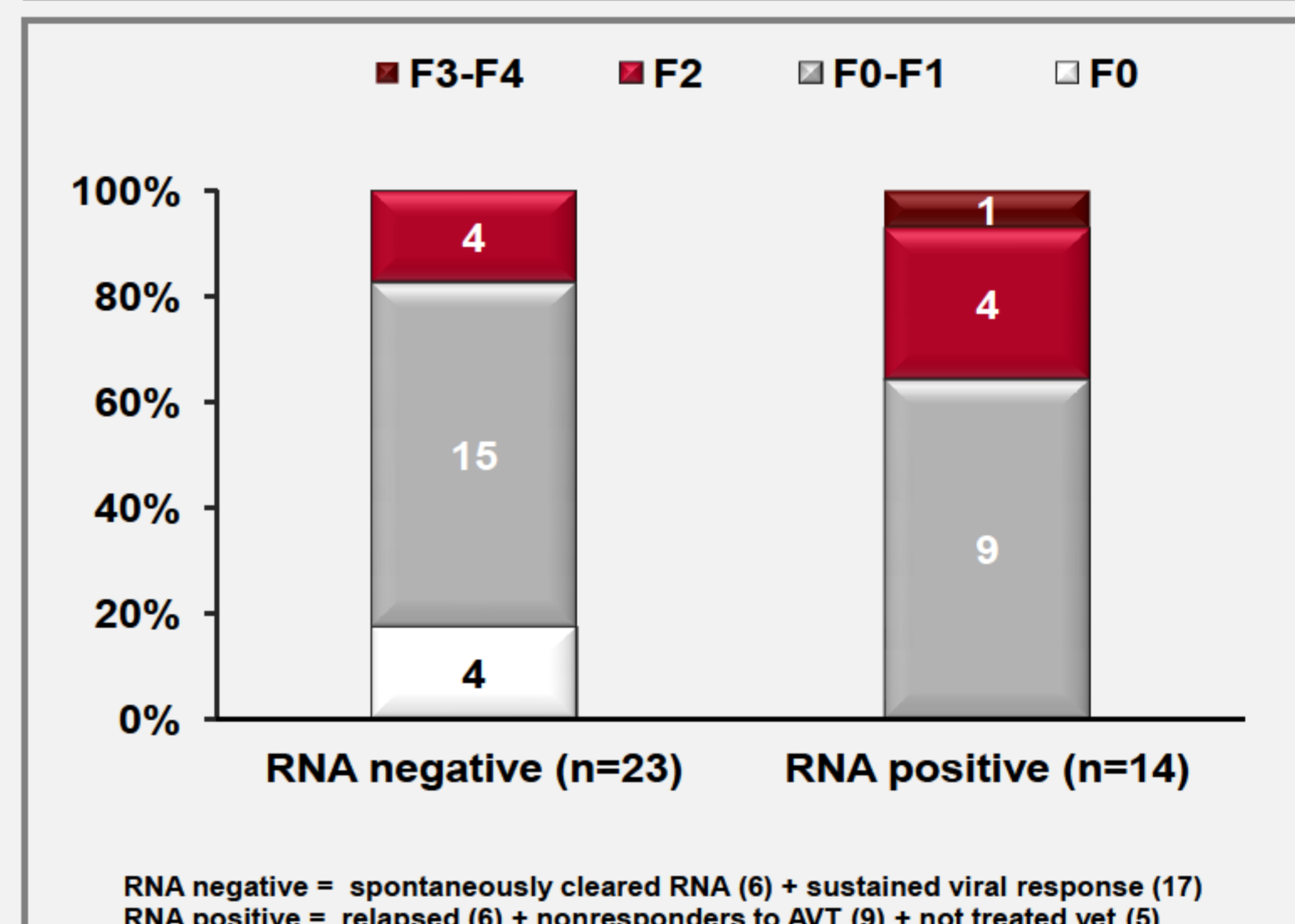
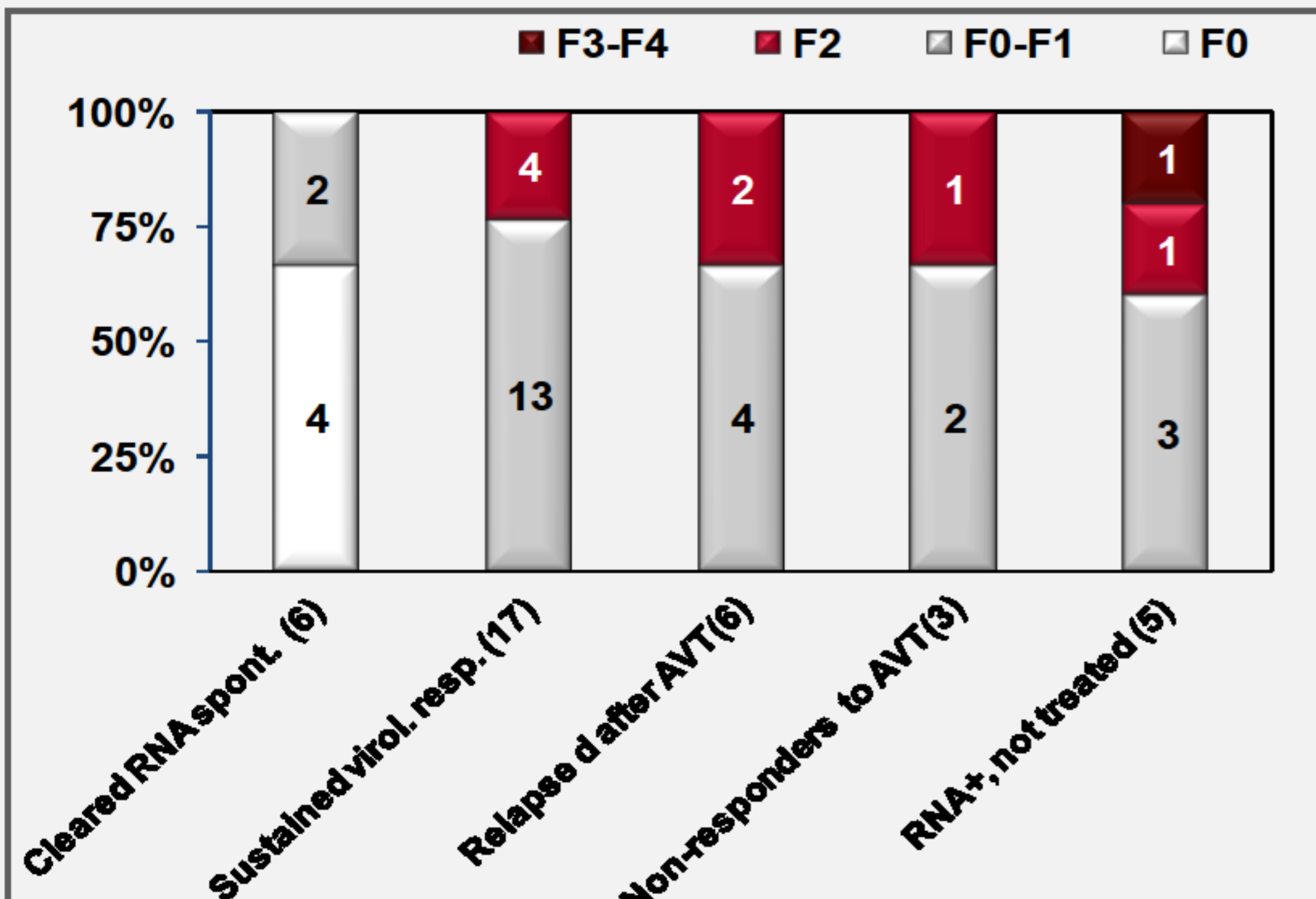


Fig 5 The degrees of fibrosis in different patients groups n/% (SVR= sustained virological response)



CONCLUSIONS

- Chronic hepatitis C still represents serious problem in hemophilia patients previously treated with non-virally inactivated products before 1992.
- Metabolic active hepatitis C (elevated ALT) was observed in 68% of RNA positive patients, but only in 12% of RNA negative patients.
- Current regime of AVT resulted in sustained virological response in 29/42 (69%) pts.
- Fibroscan revealed at least minimal liver fibrosis in the majority of HCV infected pts.
- While F0 was present only in pts who spontaneously cleared virus, F≥ 2 was more frequent in RNA pos-ve than RNA-neg-ve patients (36% vs 17%, respectively).
- The predominant presence of minimal fibrosis F0-F1 and absence of advanced fibrosis (F3) and cirrhosis (F4) in patients who underwent antiviral therapy suggest that the treatment, even if unsuccessful, may have a positive effect of slowing the progression of fibrosis.

