



# Influence of HCV Genotype 1a and Genotype 1b on the virological response to antiviral therapy.



Pellicelli A.M<sup>\*</sup>, Romano M<sup>\*\*</sup>, Barbarini G<sup>\*</sup>, Mazzoni E<sup>\*</sup>, Mecenate F<sup>§</sup>, Furlan C<sup>§§</sup>, Picardi A<sup>§§§</sup>, Bonaventura ME<sup>\*</sup>, Barbaro G<sup>^</sup>, Villani R<sup>^</sup>, Fondacaro L<sup>^</sup>, E.A Lusi<sup>^^</sup>, Cerasari G<sup>^</sup>, D'Ambrosio C<sup>^</sup>, Guarascio P<sup>^</sup>, Andreoli A<sup>^</sup>, Soccorsi F<sup>^</sup> for the CLEO Group

\*Liver Unit Azienda Ospedaliera San Camillo Forlanini Rome Italy, \*\*Liver Unit Azienda Ospedaliera Sandro Pertini Rome Italy, <sup>\*</sup> Infectious and Parasitic Diseases Polidinic San Matteo, Pavia Italy, <sup>\*</sup> Liver Unit Polidinic Casilino Hospital Rome Italy, <sup>§</sup> Liver Unit Villa Betania Hospital Rome Italy, <sup>§§</sup> Infectious and Tropical Diseases University "La Sapienza", Rome Italy, <sup>§§§</sup> Clinical Medicine Campus Bio-Medico University Rome Italy, <sup>\*</sup> Infectious Disease Ospedale San Camillo de Lellis Rieti Italy <sup>^</sup> Department of Medical Pathophysiology University "La Sapienza" Rome Italy, <sup>^^</sup> Immunology CRI Rome Italy

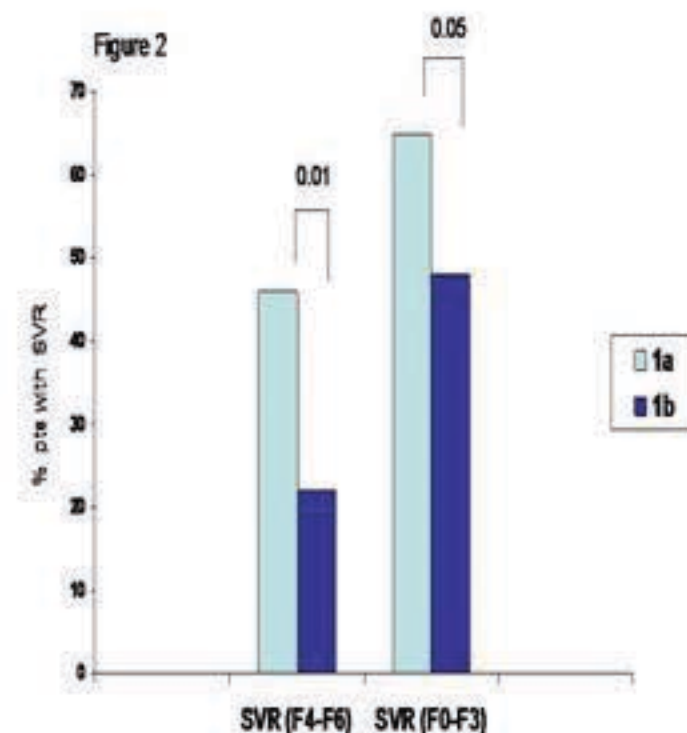
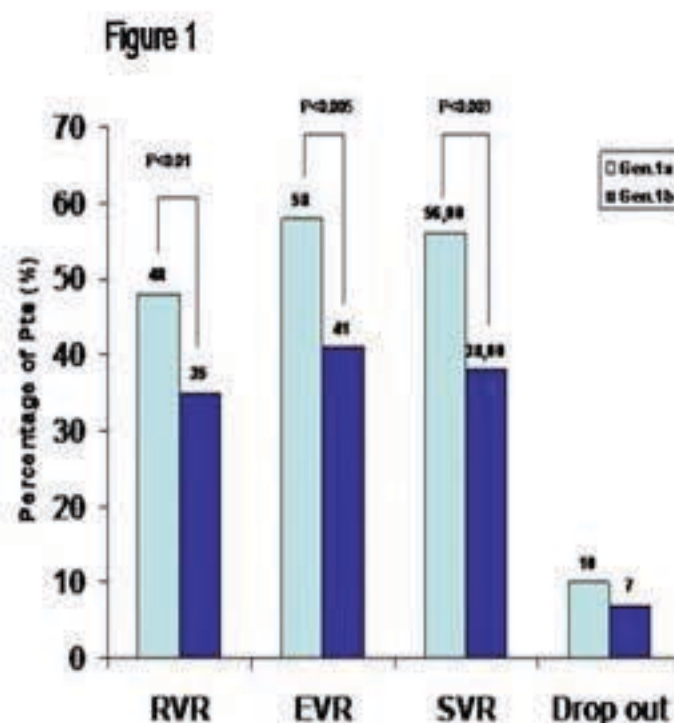
**Aim:** We have analyzed if, in genotype 1 HCV infected patients, antiviral treatment with pegylated interferon plus ribavirin has the same efficacy in term of sustained virological response (SVR) in subtypes 1a respect to 1b and if these two populations of patients have different clinical characteristics.

**Methods and Patients:** Thirty hundred and one naïve patients (n=301) with genotype 1 chronic active hepatitis C received peginterferon alfa 2a or alfa 2b plus ribavirin (15mg/kg/day) for 48 weeks. The primary endpoint was SVR by intention to treat analysis.

**Results:** All the demographic and clinical characteristics are reported in the **Table**. SVR was achieved in 56% (71 pts) of patients with subtype 1a and in 38% (66 pts) of patients with subtype 1b (p<0.003). The percentage of patients who first achieved undetectable HCV RNA at weeks 4 and 12 were respectively 49% and 58% in subtype 1a and 35% and 41% in subtype 1b (**Figure 1**). Rates of SVR were examined in relation to score fibrosis F0-F3 and F4-F6. Respective rates of SVR for genotype 1a and 1b with F4-F6 Ishak fibrosis score were 46% and 22% (p<0.01) (**Figure 2**).

Multivariate regression analysis identified a HCV RNA<400000 IU/ml (OR 3.5 95% CI 1.5-7.3 p<0.0001) and Fibrosis score <2 (OR 4.2, 95% CI 3.3-7.5 p<0.001) as independent parameters for SVR in subtype 1a HCV infected patients.

|                              | Genotype 1a<br>(n° 127) | Genotype 1b<br>(n° 174) | P value |
|------------------------------|-------------------------|-------------------------|---------|
| Sex M/F                      | 90/37                   | 98/76                   | 0.01    |
| Age (yrs)                    | 45.3±10                 | 49±12                   | 0.005   |
| BMI (Kg/m <sup>2</sup> )     | 18.5±10                 | 21±8                    | 0.01    |
| ALT (IU/ml)                  | 91±46                   | 98±56                   | 0.2     |
| GGT (IU/ml)                  | 55±36                   | 68±67                   | 0.05    |
| Hgb (gr/100ml)               | 15±1                    | 14.8±2                  | 0.3     |
| Grading (HI) mean            | 6.1±3.7                 | 6.6±3.4                 | 0.2     |
| Staging (HI) mean            | 1.71±1.3                | 2.2±1.5                 | 0.003   |
| Cirrhosis n°                 | 4                       | 18                      | 0.03    |
| HCV RNA<400000 (UI/ml)<br>n° | 37                      | 30                      | 0.02    |
| HCV RNA>400000<br>(UI/ml) n° | 90                      | 144                     | 0.02    |
| RVR n° (%)                   | 63 (49)                 | 61 (35)                 | 0.01    |
| EVR n° (%)                   | 74 (58)                 | 72 (41)                 | 0.005   |
| SVR n° (%)                   | 71 (56)                 | 66 (38)                 | 0.003   |



**Conclusion:** Patients infected with subtype 1a present respect to subtype 1b an high SVR. More importantly HCV RNA<400000 UI/ml and lower fibrosis score were positive independent parameters for SVR in genotype 1a patients.

