

# DETECTION OF ANTIBODIES TO HCV CORE AMONG ANTI-HCV-SCREENING-NEGATIVE HEMODIALYSIS PATIENTS AT RISK OF OCCULT HCV INFECTION.

G. Barril<sup>2</sup>, J.A. Quiroga<sup>1</sup>; D. Arenas<sup>3</sup>; S. Cigarran<sup>4</sup>; J. Herrero<sup>5</sup>; P. Caro<sup>6</sup>; N. Garcia-Fernandez<sup>7</sup>; J. Alcazar<sup>8</sup>; E. González Parra<sup>9</sup>; P. Martínez Rubio<sup>10</sup>; A. Martín<sup>11</sup>; I. Castillo<sup>1</sup>; J. Bartolomé<sup>1</sup>; S. Llorente<sup>1</sup>; V. Carreño<sup>1</sup>.<sup>1</sup>Fundación Estudio Hepatitis Virales, Madrid, Spain; <sup>3</sup>Nephrology, H. Perpetuo Socorro, Alicante, Spain; <sup>4</sup>Nephrology, H. Costa Burela, Lugo, Spain; <sup>5</sup>Nephrology, H. Clínico San Carlos, Madrid, Spain; <sup>6</sup>Nephrology, Clínica Rúber, Madrid, Spain; <sup>7</sup>Nephrology, Clínica U. Navarra, Pamplona, Spain; <sup>8</sup>Nephrology, H. 12 de Octubre, Madrid, Spain; <sup>9</sup>Nephrology, H. Central de la Defensa, Madrid, Spain; <sup>10</sup>Nephrology, ICN El Pilar, Madrid, Spain; <sup>11</sup>Nephrology, H. de Poniente, El Ejido, Almería, Spain.

## BACKGROUND

Testing for HCV RNA in PBMCs allows identification of occult HCV infection in only a proportion of anti-HCV and serum HCV RNA-negative hemodialysis patients with abnormal liver enzymes (J Am Soc Nephrol 2008;19:2288-92). Antibodies to HCV core are detectable among anti-HCV-negative patients with HCV infection without renal disease. Up to now anti-core has not been tested among hemodialysis patients .

## AIM

To evaluate the detection of antibodies to HCV core and correlate to HCV RNA testing in PBMCs for diagnosing occult HCV infection in repeatedly anti-HCV and serum HCV RNA negative HDpatients with abnormal liver enzymes.

## PATIENTS AND METHODS

- \* 113 chronic kidney disease patients undergoing hemodialysis. All of them had abnormal liver enzymes (ALT levels  $\geq 28$  IU/L; GGPT levels  $\geq 40$  IU/L) and resulted repeatedly negative to serum HCV RNA and anti-HCV by commercial screening assays.
- \* HCV RNA was tested in PBMCs by real-time PCR.
- \* Antibodies to HCV core5-19 peptide epitope (anti-core) were assessed by a recently developed ELISA (J Hepatol 2009;50:256-63; patent ES/P200800493 & PCT/ES2009/000019).

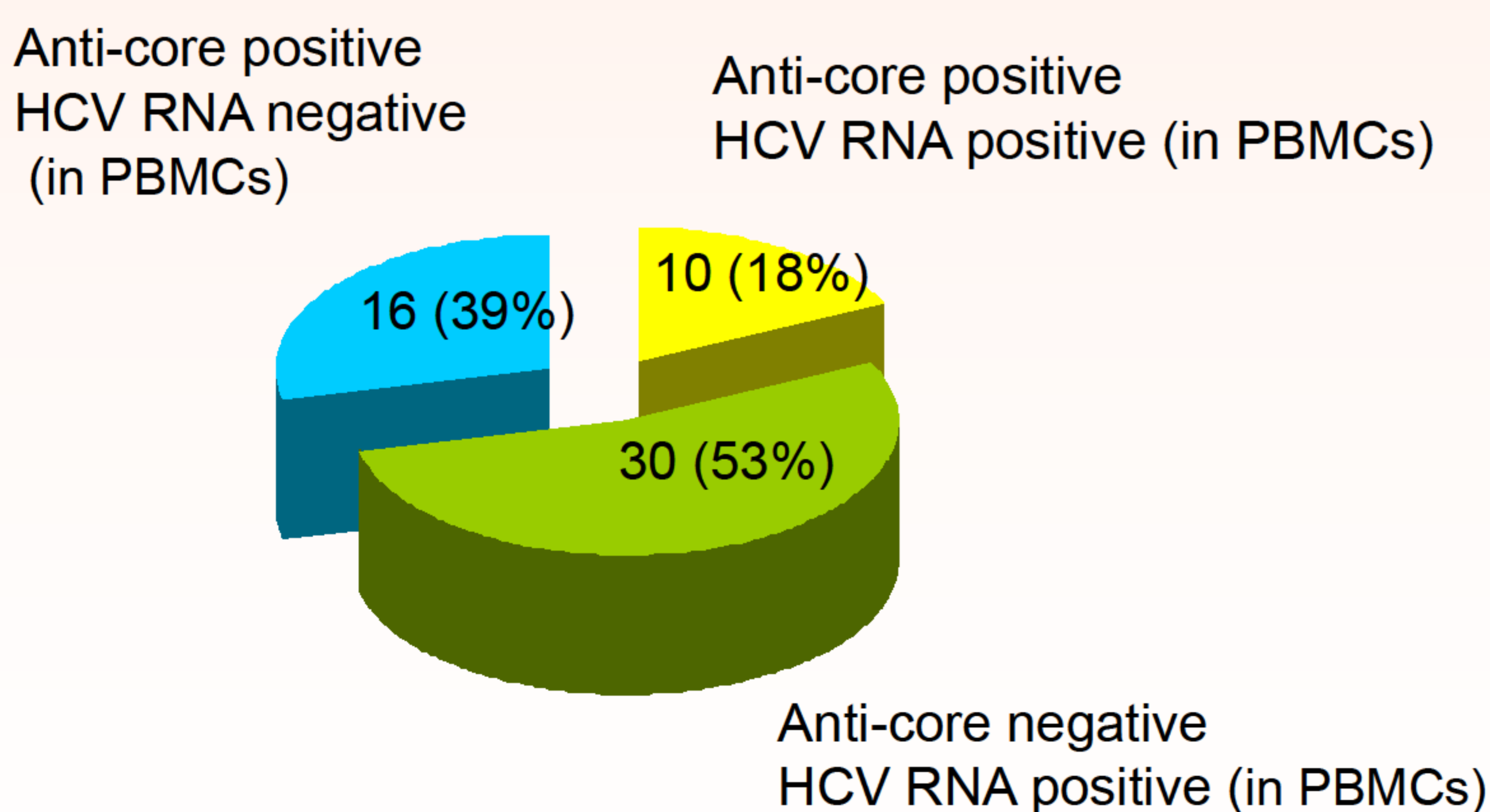
## RESULTS

HCV RNA was detected in PBMC from 40/113 (35%) patients indicating an occult HCV infection.

Anti-core antibodies were detectable in 26 (23%) patients supporting HCV exposure

Overall, 56/113 (49%) hemodialysis patients had either marker detectable

### Prevalence of HCV markers in the 56 hemodialysis patients with occult HCV



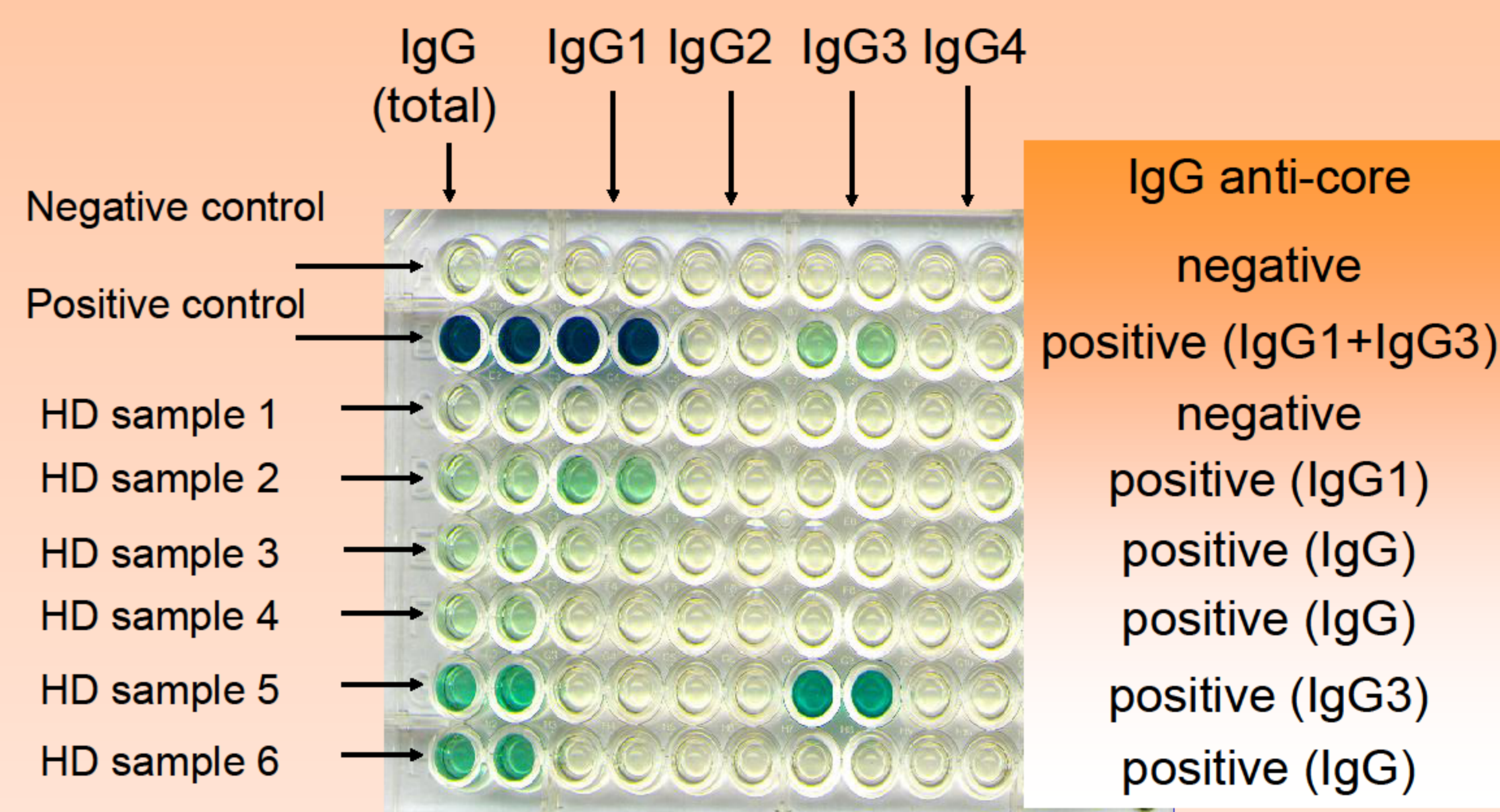
## RESULTS

**Follow-up:** 14 patients without anti-core detectable at baseline were re-tested after 12-24 months 4/14 (28%) anti-core-negative patients at baseline seroconverted to anti-core



Thus, a total of 30/113 (27%) hemodialysis patients reacted in the anti-core assay at any time-point analyzed, including 4 initially non-reactive patients.

### IgG isotype analysis of anti-core antibodies detected by EIA



Anti-core IgG isotypes 1 and 3, but not 2 and 4, are detectable among HD exposed to HCV: relationship with nephropathy?

## CONCLUSIONS

- 1) Anti-core antibodies are often detectable among anti-HCV screening-negative hemodialysis patients who may have an occult HCV infection, including 25% with confirmed occult infection and 22% of those exposed to HCV who might have developed occult HCV infection.
- 2) Repeated anti-core testing identifies 28% more cases.

Authors have nothing to disclose

