

Epidemiological, virological and clinical profile of HBsAg positive individuals in Italian hospital settings: interim results of the HBV/HDV PITER cohort

B. Coco¹, M.E. Tosti², G. Raimondo³, C. Coppola⁴, L. Chessa⁵, T. Santantonio⁶, G.B. Gaeta⁷, G. Brancaccio⁸, A. Marzano⁹, M. Milella¹⁰, V. Messina¹¹, F.P. Russo¹², A.M. Cattelan¹³, P. Lampertico¹⁴, E. Claar¹⁵, P.L. Blanc¹⁶, F. Morisco¹⁷, G. Verucchi¹⁸, D. Ieluzzi¹⁹, S. Madonia²⁰, L. Chemello²¹, M.G. Rumi²², C. Torti²³, G. Morsica²⁴, A. Federico²⁵, A. Giorgini²⁶, A.L. Zignego²⁷, M. Anselmo²⁸, A. Colecchia²⁹, P. Toniutto³⁰, F. Piscaglia³¹, A. Ciancio³², M. Puoti³³, N. Coppola³⁴, G.F. Foschi³⁵, G. Nardone³⁶, G. D'Offizi³⁷, F. Castelli³⁸, C. Mazzaro³⁹, A. Mastroianni⁴⁰, A. Licata⁴¹, I. Maida⁴², G. Di Perri⁴³, V. Di Marco⁴⁴, M.G. Quaranta², L.A. Kondili²

¹Department of Clinical and Experimental Medicine, University Hospital of Pisa, Pisa, Italy

²Center for Global Health, Istituto Superiore di Sanità, Rome, Italy

³Department of Internal Medicine, University Hospital of Messina, Messina, Italy

⁴Department of Hepatology, Gragnano Hospital, Gragnano (NA), Italy

⁵Liver Unit, University Hospital, Monserrato, Cagliari, Italy

⁶Infectious Diseases Unit, Ospedali Riuniti, Foggia, Italy

⁷University of Campania "Luigi Vanvitelli", Naples, Italy

⁸Department of Molecular Medicine, Infectious Diseases Unit, University of Padua, Padua, Italy

⁹Gastroenterology Unit, Molinette Hospital, Turin, Italy

¹⁰Clinic of Infectious Diseases, University of Bari, University Hospital Policlinico, Bari, Italy

¹¹Department of Infectious Diseases, Sant'Anna Hospital, Caserta, Italy

¹²Department of Surgery, Oncology and Gastroenterology, Gastroenterology Unit, University of Padua, Padua, Italy

¹³Department of Medicine, Infectious Diseases Unit, University of Padua, Padua, Italy

¹⁴Division of Gastroenterology and Hepatology, Foundation IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy

¹⁵Hepatology Unit, Betania Hospital, Naples, Italy

¹⁶Infectious Disease Unit, Santa Maria Annunziata Hospital, Florence, Italy

¹⁷Gastroenterology Unit, Federico II University, Naples, Italy

¹⁸Clinic of Infectious Diseases and Microbiology Unit, Alma Mater Studiorum Bologna University

¹⁹Liver Unit University Hospital of Verona, Verona, Italy

²⁰Department of Internal Medicine, Villa Sofia-Cervello Hospital, Palermo, Italy

²¹Department of Medicine, Unit of Internal Medicine & Hepatology, University Hospital of Padua, Padua, Italy

²²Hepatology Unit San Giuseppe Hospital, Milan, Italy

²³Department of Medical and Surgical Sciences, Infectious and Tropical Diseases Unit, "Magna Graecia" University, Catanzaro, Italy

²⁴Department of Infectious Diseases, San Raffaele Hospital, Milan Italy

²⁵Department of Hepato-Gastroenterology, University of Campania Luigi Vanvitelli, Naples, Italy

²⁶Gastroenterology and Hepatology Unit, San Paolo Hospital, University of Milan, Italy

- ²⁷Department of Experimental and Clinical Medicine, Interdepartmental Centre MASVE, University of Florence, Florence, Italy
- ²⁸Infectious Disease Unit, San Paolo Hospital, Savona, Italy
- ²⁹Gastroenterology Unit, University Hospital Borgo Trento, Verona, Italy
- ³⁰Hepatology and Liver Transplant Unit, Azienda Sanitaria Universitaria Integrata di Udine, Udine, Italy
- ³¹Division of Internal Medicine Unit, Sant'Orsola Malpighi Hospital, Bologna, Italy
- ³²Gastroenterology Unit, Città della Salute e della Scienza of Turin, University Hospital, Turin, Italy
- ³³Infectious Disease Unit, Niguarda Hospital, Milan, Italy
- ³⁴Infectious Diseases Unit, Department of Mental Health and Public Medicine, University of Campania "Luigi Vanvitelli", Naples, Italy
- ³⁵Internal Medicine, Hospital of Faenza, A.U.S.L. of Romagna, Italy
- ³⁶Department of Clinical Medicine and Surgery, Hepato-Gastroenterology Unit, University of Napoli "Federico II", Napoli, Italy
- ³⁷National Institute for Infectious Diseases, Lazzaro Spallanzani-IRCCS, Rome, Italy
- ³⁸Department of Infectious and Tropical Diseases, Spedali Civili and University of Brescia, Brescia, Italy
- ³⁹Unit of Clinical of Experimental Onco-Hematology, IRCCS Centro di Riferimento Oncologico (CRO), Aviano, Pordenone, Italy
- ⁴⁰Department of Infectious and Tropical Diseases, SS Annunziata Hospital, Cosenza Italy
- ⁴¹Infectious Diseases Clinic, Department of Biomedical Sciences and Public Health, DIBIMIS, University of Palermo, Palermo, Italy
- ⁴²Infectious and Tropical Diseases Unit, Department of Medical, Surgical and Experimental Sciences, University of Sassari, Sassari, Italy
- ⁴³Department of Medical Sciences, Unit of Infectious Diseases, University of Turin, Turin, Italy
- ⁴⁴Unit of Gastroenterology and Hepatology, Biomedical Department of Internal and Specialistic Medicine, University of Palermo, Palermo, Italy

Introduction: The increasing flows of migrants from endemic area is changing the burden of HBV infection in Italy in the last few decades.

Aim: We aimed to evaluate the epidemiological, virological and clinical profile of HBsAg positive subjects in order to update the HBV epidemiology in the hospital setting and the natural history of chronic HBV infection in a multi-ethnic context.

Method: Consecutive HBsAg positive patients were enrolled during 2019-2021 in the PITER cohort from 41 Italian clinical centers.

Results: 3141 patients (75.5% Italian and 25.5% non-Italian native) were enrolled; mean age: 58 years (range 16-93); 62% male; 73% genotype D, 65% in ongoing treatment. The 2 cohorts differed significantly ($p=0.000$) for gender: female 36.0% vs 48.1%, HBV genotype D: 80.0% vs 57.6%, HBeAg positivity: 4.5% vs 1.9% in Italian vs non-Italian natives, respectively. Italian patients were older (median 61 y vs 48 y $p=0.0001$) had more severe liver disease: cirrhosis 22.0% vs 4.0%, HCC 5.0% vs 1% $p=0.000$, higher rate ($p=0.000$) of liver disease cofactors and comorbidities mainly

steatosis (25.1% vs 15,1%), cardiovascular disease (28.6% vs 9.0%), dislipidemia (10.4% vs 5.2%), diabetes (10.2% vs 3.7%). Anti-HDV was tested in 76% of patients and it was positive in 8% (7.5 % Italian vs 9.5% non-Italian natives). Median age of HBD/HDV patients was 55 years (range 21-80); 65% had cirrhosis, 13% had HCC. HDV-RNA was tested in 72% of anti-HDV positive patients: HDV RNA was positive in 61% of them. 79% of the HDV-RNA positive patients were mostly on NUCs treatment (90%).

Conclusion: Significantly different HBV epidemiological, virological and clinical profiles have been observed in Italians versus non-Italian native patients by demographic, infection/coinfection and comorbidity patterns. Such evidences underline the need of updated healthcare strategies for an effective control of HBV infection, well diagnostic and treatment algorithms for an appropriate management of HBV and HBV/HDV patients.