Major Challenges in Clinical Management of TB/HIV Coinfected Patients in Eastern Europe Compared with Western Europe and Latin America

AM W Eftse1, A Schultz2, FA Post3, A Panteleev4, RJ Furri5, R Miller6, MH Losso7, J Toibaro8, A Skrahin9, JM Miro10, JA Caylã11, E Girardi11, M Bruyant12, N Obel13, DN Podlekarev1, JD Lundgren1, A Mocroft1, O Kirk1

for the TB:HIV study group in EuroCoord1

1 CHIP, Department of Infectious Diseases and Rheumatology, Section 2100, Rigshospitalet – University of Copenhagen; 2 University College London, London, UK; 3 King’s College Hospital, London, UK; 4 TB hospital 2, St. Petersburg, Russia; 5 Bern University Hospital and University of Bern, Bern, Switzerland; 6 Maitoner Market Centre, London, UK; 7 Hospital J. Ramos Mejia, Buenos Aires, Argentina; 8 Republican Research and Practical Centre for Pulmonology and TB, Minsk, Belarus; 9 Hospital Clinic – IDIBAPS, Barcelona, Spain; 10 Public Health Agency of Barcelona, Barcelona, Spain; 11 Ospedale L Spallanzani, Rome, Italy; 12 Centre Inserm U937, Bordeaux, France; 13 Rigshospitalet, Copenhagen, Denmark.

A full list of the TB:HIV study group investigators can be found in the acknowledgement section.

BACKGROUND

Rates of both TB/HIV coinfected patients are increasing in Eastern Europe (EE). Data on the clinical management of TB/HIV coinfected patients are scarce.

AIMS

• To study the clinical characteristics of TB/HIV coinfected patients in Europe and Latin America (LA) at TB diagnosis.

• Identify factors associated with MDR-TB.

• Assess the activity of initial anti-TB treatment regimen results given the results of drug-susceptibility tests (DSTs).

METHODS

Characteristics of patients were compared across regions. Risk factors for MDR-TB were identified in logistic regression models. Among patients with DST done within the first month of anti-TB therapy, we linked empiric anti-TB treatment regimens to the DST results and calculated the distribution of patients receiving 0, 1, 2, 3 and > 4 active drugs in each region. If a specific DST result was not available for a given drug, the patient was assumed to be sensitive to this drug; sensitivity analyses restricted to patients with complete resistance results (DST results available for all anti-TB drugs used in the empiric treatment regimen) were also performed.

RESULTS

• 1413 TB/HIV coinfected patients were enrolled from 62 clinics in 19 countries in EE, Western Europe (WE), Southern Europe (SE) and LA from 01/01/2011 to 31/12/2013.

• Significant differences were observed between EE, WE, SE and LA; in EE, TB/HIV patients had poorer exposure to cART, less often a definite TB diagnosis (culture or PCR positive for M. Tuberculosis), and more often MDR-TB compared to other parts of Europe and LA (Table 1 and 2).

• A history of injecting drug use, prior anti-TB treatment and living in EE were independently associated with MDR-TB (Figure 1).

• For 585 patients with available DST, the empiric anti-TB treatment contained ≥3 active drugs in 66% of patients in EE compared with 90-96% of patients in other regions (Figure 2a). Had the patients received empiric therapy with standard therapy (Rifampicin, Isoniazid, Pyrazinamide, Ethambutol (RHZE)), the corresponding proportions would not have changed substantially (Figure 2b).

• Large intraregional variations in levels of MDR-TB and use of empiric RHZ-based anti-TB treatment were observed especially in EE, where the proportion of MDR-TB cases ranged from 11 to 59% between countries, and the use of RHZ-based empiric anti-TB treatment ranged from 54% to 96%.

CONCLUSIONS

• Empiric anti-TB therapy in EE was suboptimal, with less than two-thirds of patients receiving three active drugs, and improved compliance with standard RHZE treatment does not seem to be the solution. Improved management of TB/HIV patients requires routine use of DST, empiric anti-TB therapy according to prevailing resistance patterns, and more widespread use of cART.

Table 1: Patient characteristics

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Table 2: TB diagnostic status, empiric treatment regimens and drug resistance patterns

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Figure 2a and 2b: Susceptibility of empiric anti-TB treatment (2a) and hypothetical susceptibility presuming RHZE had been initiated (2b).

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