

Comparison of Treatment Practices for Nontuberculous Mycobacterial Pulmonary Disease in Japan, Europe, and the United States

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Introduction

- Recent data from the United States suggest limited adherence to the American Thoracic Society (ATS) guideline that recommends a 3-drug regimen to treat patients with pulmonary disease caused by *Mycobacterium avium* complex (MAC) bacteria.

Aim

- To evaluate whether clinicians in Europe and Japan adhere to the ATS guidelines.

Methods

- Representative samples of physicians from Japan, 5 countries in Europe (EU5: United Kingdom, France, Germany, Italy, and Spain), and the United States extracted treatment information from records of patients with a confirmed diagnosis of nontuberculous mycobacterial pulmonary disease (NTM-PD).
- Treatment patterns in EU5 and Japan were compared with published data from the United States.

Results

- In the EU5 and Japan, a total of 619 qualified physicians with NTM-PD patients provided a total of 1,429 patient cases.
- In the US study, 349 physicians provided 915 patient cases.
- MAC (~80%) was the predominant causative agent in all countries, followed by *Mycobacterium abscessus* (*M. abscessus*).
- Physician-reported disease severity differed by region (Figure 1).

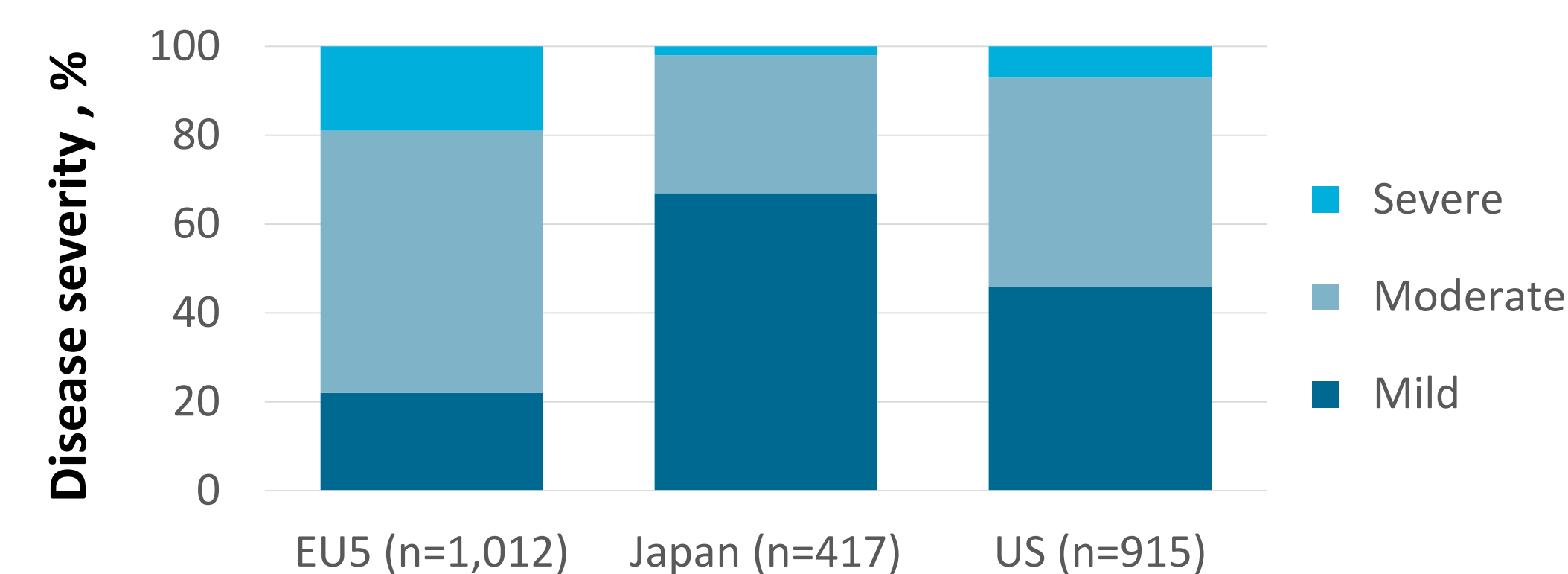


Figure 1. Reported disease severity, by region

- A higher percentage of patients in EU5 (68%) received treatment compared with patients in the United States (53%) and Japan (43%).

- Preferred antibiotic treatment modalities are provided in Table 1.

Treatment Modality	Total (N=1,356)	EU5 (n=690)	Japan (n=179)	US (n=487)
Oral antibiotics, %	87	82	98	89
IV antibiotics, %	25	31	11	21
Inhaled antibiotics, %	5	7	1	2

- The percentage of patients with MAC disease who received treatment with the recommended 3-drug macrolide regimen for >6 months differed strongly by country (Figure 2).

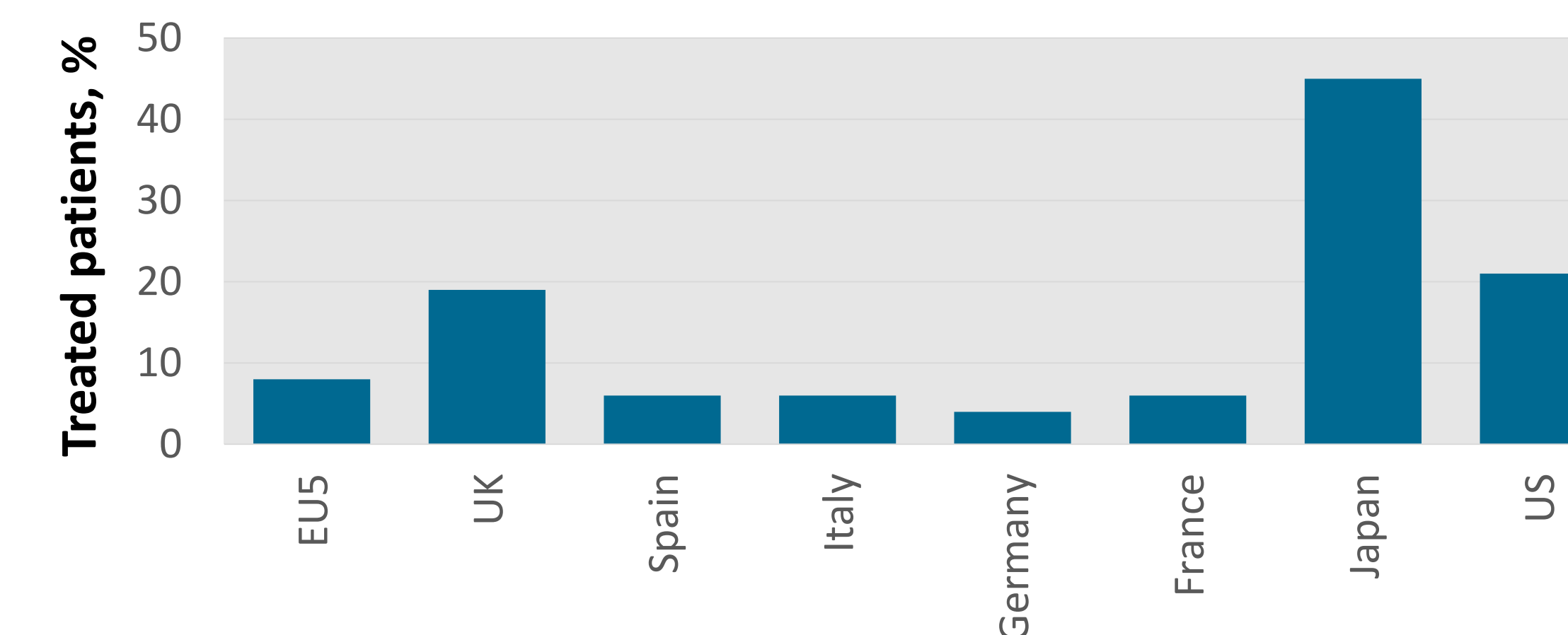


Figure 2. Percentage of patients receiving macrolide regimen for >6 months

Discussion

- Treatment practices for NTM-PD differ among EU5, Japan, and the United States.
- Use of IV antibiotics is more frequent in the EU5 than in Japan or the United States. This is likely a function of disease severity, but its underlying dynamics warrant further research.
- The use of ATS guideline-compliant 3-drug macrolide regimens is limited in all regions, but particularly limited in the continental European countries. The complete assessment of factors leading to regional differences was not feasible in these studies. However, these data form the basis for design of future investigations.

Conclusion

- ATS guideline-compliant treatment was most frequent in Japan.
- Further investigation is warranted to address critical gaps in appropriate treatment practices.