

**P0161**

**Paper Poster Session**

**Pathology, diversity and clinical outcome in TB**

**Response scores for the evaluation of patients with tuberculosis from a multi-centric cohort study in Germany**

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**Background:** Tuberculosis (TB) differs from most other bacterial infectious diseases by a very long duration of combination antibiotic therapy required to achieve relapse-free cure.

Objective: We designed an easy and rapid to use clinical response score to ascertain treatment responses in patients with pan-drug-susceptible and in patients with multidrug-resistant tuberculosis.

**Material/methods:** As part of an ongoing clinical evaluation we started to enroll patients with pan-drug-susceptible and multidrug-resistant smear-positive pulmonary tuberculosis at 5 centers in Germany in March 2013. Clinical disease severity was assessed by a 30 point health score of 20 items. Evaluation was performed before treatment initiation, at 2 weeks, at smear and culture conversion and after 6 months. In addition, in patients with multidrug-resistant tuberculosis evaluations were performed also at 10, 15 and 20 months of therapy. Microbiological response was ascertained by time to culture conversion. The radiological extent of the disease was ascertained by the Ralph score. Interim analysis was performed at November 2015.

**Results:** At the time of interim analysis 62 patients with pan-drug-susceptible tuberculosis and 32 with multidrug-resistant tuberculosis had been enrolled. Median age was 41.5 years (IQR 33-54.5); and 40 (66.7%) were male. Median time to culture conversion was 27 days in patients with pan-drug-susceptible tuberculosis vs. 60 days in patients with multidrug-resistant tuberculosis ( $p=0.276$ ). 22 (50%) and 42 (95.5%) of patients achieved culture conversion before 2 and 6 months, respectively.

There was a significant decline in the DZIF clinical score between enrollment and culture conversion (median 3 vs. 1 point,  $p<0.001$ ) as well as in the Ralph score (median 55 vs. 45 points,  $p<0.001$ ).

In patients with pan-drug-susceptible tuberculosis, there was no correlation of the clinical score at enrollment with the time to culture conversion ( $r=0.417$ ,  $p=0.138$ ), similarly, in patients with multidrug resistant tuberculosis there was also no correlation of the clinical score with the time to culture conversion ( $r=0.468$ ,  $p=0.058$ ). However, there was a significant correlation between the clinical score and the Ralph score at enrollment for patients with pan-susceptible tuberculosis ( $r=0.743$ ;  $p=0.009$ ), as well as for patients with multidrug-resistant tuberculosis ( $r=0.602$ ,  $p=0.023$ ).

**Conclusions:** A simple clinical response score correlates well with radiological score in patients with pan-drug-susceptible tuberculosis as well as patients with multidrug resistant tuberculosis. These scores might potentially be used for monitoring treatment response in patients with tuberculosis.