



## **ACTIVE TUBERCULOSIS AFTER NEGATIVE SCREENING BEFORE TREATMENT OF PEDIATRIC AUTOIMMUNE DISEASES - NEED FOR RE-SCREENING IN HIGH-BURDEN TUBERCULOSIS AREAS?**

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### **BACKGROUND**

Tuberculosis (TB) and reactivation of latent tuberculosis infection (LTBI) remains a major concern in patients with rheumatic diseases due to immune dysregulation and immunosuppressive and biological treatment, especially in a high-burden TB country. Xpert® MTB/RIF (real-time PCR-based molecular test) and culture are recommended to suspected TB cases, whenever it can be performed. This study aims to report a case series of pediatric patients with autoimmune rheumatic diseases, diagnosed with active TB in 2019, in a tertiary referral center in Pediatric Rheumatology and Pulmonology.

### **MATERIALS AND METHODS**

Data of pediatric patients, with autoimmune rheumatic diseases, followed-up in a Brazilian pediatric referral center, diagnosed as active TB in 2019, have been retrospectively collected and analyzed. Diagnosis of active TB was based on clinical score, radiographic findings, smear or culture-positive sputum/gastric washing, and Xpert® MTB/RIF.

### **RESULTS**

Four patients with active TB were included: 3 with juvenile idiopathic arthritis (JIA) - 1 systemic onset (soJIA), 1 polyarticular rheumatoid factor (RF) positive, 1 polyarticular RF negative - and, 1 polyarteritis nodosa (PAN). Female to male ratio was 3:1, and the age at diagnosis of active TB ranged to 6-13 years. All patients were screened for LTBI and active TB with clinical examination, history of TB exposure, tuberculin skin test (TST) and chest radiography, before the use of steroids, immunosuppressant and biological agents, resulting in no diagnosis of LTBI. Two patients were in use of methotrexate and anti-TNF therapy (1 etanercept and 1 adalimumab) during 1 year, 1 steroid for 3 weeks and 1 methotrexate for 1 week. All patients had persistent fever and cough, 2 weight loss, 2 pleural effusion, 1 foot osteomyelitis, and 2 had a recent history of TB exposure. Three had miliary tuberculosis, and the other one had hilar adenopathy. All had high probability clinical-radiological scores for active TB. Regarding laboratory tests, 1 TST reaction was positive, all sputum microscopy for acid-fast bacillus (AFB) were negative, 1 was only culture and Xpert® MTB/RIF positive.

### **CONCLUSION**

The present study findings underscore the need for considering TB as one of the critical adverse events before prescribing not only biologics, but also systemic steroids and immunosuppressant, both in early and late treatment of background disease. Limitations of TST diagnostic value for LTBI, especially the false negative results in immunocompromised patients, suggest that patients initially negative at TST might benefit from periodical TB re-screening.