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Tuberculosis Mimicking Chronic Arsenic Poisoning In An Adolescent Male Filipino: A Case Report

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CASE DESCRIPTION: A 17-year-old male, diagnosed with pulmonary tuberculosis (PTB), who was intermittently given anti-Koch's medications for the last 5 years in other institutions, was admitted to PGH with dyspnea and bipedal edema. He was managed as a case of congestive heart failure secondary to TB pericarditis. Remarkable physical findings showed hyperkeratotic lesions on the palms of his hands and soles of his feet. Chest radiography showed pneumonia with pulmonary tuberculosis. Echo studies revealed constrictive TB pericarditis and thickened pericardium but, chest CT-scan showed unremarkable cardiac findings, and noted bronchiectatic changes. Sputum, Urine AFB, PCR, AFB Smear and Gene Xpert results were all negative for TB. Environmental history revealed the patient's residence was at a location where the tap water source was known to have high arsenic concentrations. Skin biopsies of the cutaneous lesions were consistent with arsenical keratosis. Referral to toxicology service was made, and urine arsenic concentration was ordered together with the suggested baseline EMG-NCV test. Active supportive management was undertaken. The patient improved after completion of the antibiotic course and was discharged with instruction to avoid the original residence and prevent re-exposure to the arsenic laden water.

DISCUSSION: This case highlights the overlapping symptoms of PTB and bronchiectasis secondary to chronic arsenic toxicity. With a background of negative results in complete PTB work-up, a complete history (especially external factors e.g. geographic location), together with a thorough physical examination is paramount for an accurate diagnosis. Reports of arsenic related bronchiectasis & cardiorespiratory complications were further reviewed among adults. This case can be an index pediatric patient with chronic arsenicosis resulting to bronchiectasis which clinically manifested as congestive heart failure. This also proves that arsenicosis is a public health problem that must be addressed at a local scale.