A Case of Isoniazid Induced Gynecomastia

Divisions of 1Pulmonary Medicine, 2Infectious Medicine, Department of Internal Medicine, Eulji University School of Medicine, Daejeon, Korea
Min Kyung Lee, M.D.1, Dong Jib Na, M.D.1, Ho Seok Jeon, M.D.1, Yang Deok Lee, M.D.1, Yong Seon Cho, M.D.1, Min Soo Han, M.D.1, Hee Jeong Yoon, M.D.2

Key Words: Isoniazid, Gynecomastia

Introduction

Isoniazid is an essential drug in antituberculous regimens against Mycobacterium tuberculosis. The serious adverse effects of isoniazid are not common and include hepatitis, peripheral neuropathy, and cutaneous reactions1. Although isoniazid has also been involved as a cause of gynecomastia2, the reported cases are fairly rare3-6. We describe here a case of gynecomastia that had isoniazid as causative agent.

Case Report

A 72-year old, man was admitted to the hospital with a complaint of one month of productive cough. The patient had been left paraplegic since 1988, when fell down by accident. He denied tobacco, alcohol, or any drug use. Given her history, primary care physician treated supportively with antibiotics for presumed pneumonia. This provided no symptomatic relief. He experienced no fever, weight loss, night sweats, chest pain or hemoptysis.

Physical examination revealed a thin-appearing old man with no apparent respiratory distress. He was awake and oriented. On auscultation of lung, breath sound was decreased over right upper lung. Cardiac and skin examinations were normal, as was the remainder of the physical examination.

Laboratory data revealed the following: WBC count, 11,100/mm3 with 82% neutrophil and 8% lymphocyte; hemoglobin, 12.8 g/dl; hematocrit, 37.0%; C-reactive protein, 2.49 mg/dl; albumin, 3.3 g/dl; aspartate aminotransferase, 47 IU/L; alanine aminotransferase, 56 IU/L; alkaline phosphatase, 131 IU/L; total bilirubin, 0.3 mg/dl; sodium, 134 mEq/L; potassium, 4.3 mEq/L; chloride, 107 mEq/L; urea nitrogen, 39 mg/dl; creatinine, 2.1 mg/dl; and creatinine clearance, 20.6 ml/min.
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Figure 1. Chest radiograph showing a patchy consolidation with air bronchogram on right upper lung field.

Figure 2. Left gynecomastia that developed during antituberculous treatment.

Thyroid function test was normal. A urinalysis showed negative protein, 5 to 9 RBCs, and 1 to 4 WBCs per high-power field. The patient was diagnosed with stable chronic kidney disease at nephrology consultation. Regular follow up was planned without dialysis. Arterial blood gas analysis showed a pH of 7.340; PaCO2, 27.0 mm Hg; PaO2, 95.0 mm Hg; and oxygen saturation, 97.0% while he was breathing ambient air. Laboratory evaluation for Legionella, pneumococcal and Mycoplasma were negative. Tuberculin skin test and HIV serology were also negative. Chest X-ray (Figure 1) revealed a patchy consolidation with air bronchogram on right upper lung field.

Treatment was initiated with antibiotics for a presumed pneumonia. Sputum smear for acid fast bacilli and polymerase chain reaction (PCR) for Mycobacterium tuberculosis was negative. Bronchoscopy showed anthracotic pigmentation in the whole bronchus with some secretions in right upper lobe. Only PCR for Mycobacterium tuberculosis in bronchial washing was positive.

The patient was started on antituberculous therapy, with isoniazid (300 mg daily), rifampin (600 mg daily), ethambutol (400 mg thrice weekly), and pyrazinamide (1,000 mg thrice weekly) in appropriate doses in view of his creatinine clearance results. After taking the medicine, he had improved with gradual resolution of constitutional symptoms without any adverse reaction of antituberculous medicine. He was discharged on admission day 23. Subsequent culture of sputum, bronchial washings and urine were negative for Mycobacterium tuberculosis.

He was seen in outpatient clinic at which time he reported that he was doing well. Repeated chest radiography revealed also slightly improved infiltration on right upper lung. After four months, while receiving only EHR, he noticed a swelling around the both nipples (Figure 2) with an otherwise normal physical examination. Approximately 4 cm in diameter, the lumps felt rubbery and slightly tender. Mammography showed proliferation of fibronodular tissue in both subareolar areas with prominent gynecomastia on left side. Ultrasonogram of breast revealed no definite lesion. He reported the recent onset of breast enlargement during antituberculous therapy and receiving one of possible causative drugs causing gynecomastia. Isoniazid was stopped immediately with a presumptive diagnosis of isoniazid associated gynecomastia. Antituberculous regimen except for isoniazid was given without further diagnostic procedure. His breast swelling and tenderness have resolved slowly within 1 month. Patient has completed a 9-months course of antituberculous treatment and is now in follow-up. His gynecomastia has dis-