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16 Year-old Football Player with Rib Pain

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CASE PRESENTATION

HISTORY: 16-year-old male football player presents to primary care sports physicians office complaining of significant right-sided chest pain for 2 weeks. Started during preseason workouts without injury. The pain is intermittent, non-radiating, and achy in nature. Pain is reproducible with movement and deep inspiration. His pain preceded a recent resolved URI. ATC was treating him for intercostal strain, and was not improving. PCP started muscle relaxant, which helped the spasm but not pain. His wisdom teeth were removed 2 months ago. He denies fevers, chills, chest pain, difficulty breathing, hematuria, abdominal pain, vomiting, smoking history, or family history of thromboembolic events.

PHYSICAL EXAM: Patient is oriented to person, place and time. He is normotensive, afebrile, respiratory rate within normal limits, in sinus rhythm. Lungs had rhonchi present in right upper lung field, no wheezing, or crackles. Tenderness along ribs 3-7 mid axillary line, tenderness to palpation over rhomboids and thoracic paraspinal muscles, no crepitus palpable, or step off. Pain worsened with shoulder movements. Heart sounds are regular rate and rhythm. Skin is warm and dry, not diaphoretic. No cervical adenopathy present.

DIFFERENTIAL DIAGNOSIS:

Costochondritis
Malignancy
Rheumatologic/Vasculitis
Pneumonia
Rib fracture

TEST / RESULTS:

WBC: 6.5 Neutrophils: 59% H/Hct: 13.5/39.6 Plt: 248

ESR: 3

UA: pH 6 Glucose, Blood, Leukocytes, Nitrite: Negative Spec Gravity: 1.031 Protein present

URINE CULTURE: No growth

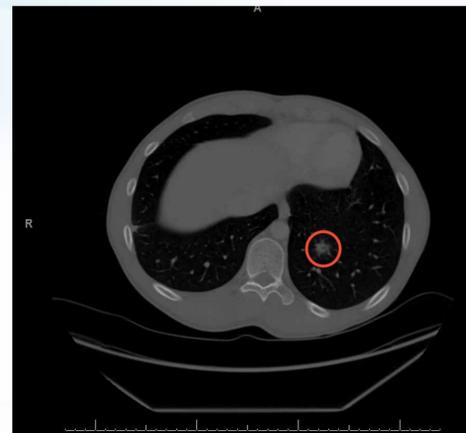
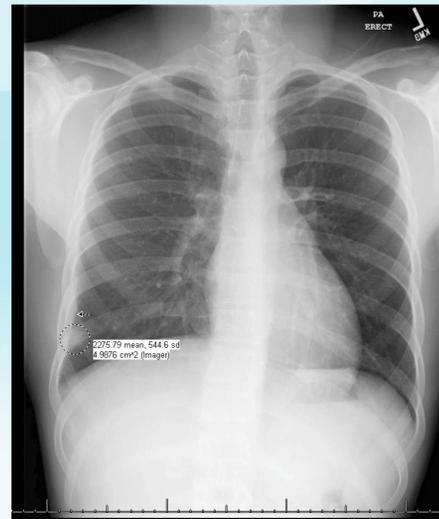
URINE MICRO: 2+ mucous threads

Chest Xray: Faint pleural thickening and minimal patchy ground-glass opacity in the periphery of the right lower lung.

CT CHEST, ABDOMEN, PELVIS: Bilateral pulmonary parenchymal peripheral nodular densities are most prominent in the lower lobes. One in the left lower lobe has cavitation. Infection, and particularly septic emboli is of greatest concern

FINAL DIAGNOSIS: Necrotizing granuloma due to mycoplasma infection.

IMAGES



DISCUSSION

Nontuberculous mycoplasma pneumoniae can on rare occasion cause pulmonary nodules in asymptomatic patients. X-rays are typically negative. High resolution CT scans can find nodules up to 50-81% of the time. CT scan will show intra-lesional calcification or increased attenuation suggestive of a granulomatous cause. Surgical biopsies help provide a definitive diagnosis and guide anti-microbial therapy. Surgical resection is also an option depending on the severity of the disease, geographic distribution, pulmonary reserve, and response to antimicrobial therapy.

OUTCOME

After the initial office visit plan was to order stat chest CT scan. Patient was admitted to the hospital for further work up the pulmonary nodules. Infectious Disease and Pediatric Surgery were consulted. He received Ancef while admitted, and underwent a VATS procedure. Echocardiogram and Angiotensin Covering Enzyme level were normal, and Rheumatologic work up was negative. Fungal, aerobic/anaerobic cultures, and AFB cultures were also negative. Surgical path showed necrotizing nodules and serology was positive for mycoplasma pneumoniae IgM and IgG (had a prolonged respiratory illness 17 months ago). He was discharged after 4 days. He finished a course of Azithromycin as an outpatient.

FOLLOW-UP

He was cleared for physical activity by Pediatric Surgery 15 days post VATS procedure. Follow up with Infectious Disease 6 weeks post hospitalization showed a normal chest x-ray with post procedure findings. He is now back to full physical activity.

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