Misdiagnosis in a 12 Year-Old Female with Right Aberrant Subclavian Artery and Difficult Swallowing

James D Collins, M.D.

Acknowledgements: Steven Do, Portia Daniels, David T. Nelson, UCLA Radiology Media Center

Keywords: radiology ■ imaging ■ anatomy ■ pediatrics ■ aberrant right subclavian artery ■ costoclavicular compression ■ MRI, MRA and MRV

Author Affiliation: James D Collins, Professor, UCLA Radiology

INTRODUCTION

A left aortic arch with aberrant right subclavian artery is the most common congenital aortic arch anomaly. Aberrant right and left subclavian arteries have been imaged on MRI/MRA/MRV of the brachial plexus in patients presenting with symptoms of TOS: arm and hand pain with paresthesias; hand muscle weakness, headache; autonomic vascular and temperature changes; whooshing sounds in the ear, ear pressure pain; jaw pain, lower extremity pain, and visual "floaters". A 12-year old girl presented with complaints

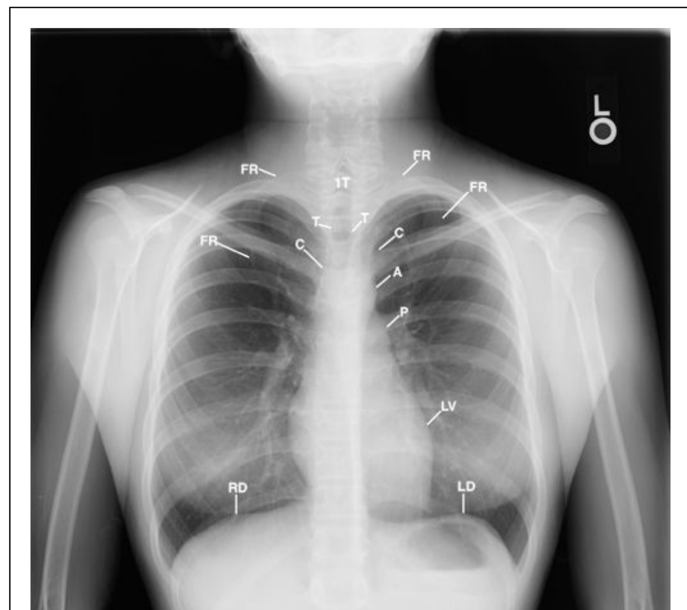

FIGURE 1. Posterior Anterior Chest Radiograph

The Posterior Anterior chest radiograph displays thin subcutaneous tissues; forward rounding of the shoulders, right elevated shoulder as compared to the left shoulder; heads of the clavicles (C) low over the posterior 5th ribs, right lower than left.

A-Aorta, C-Clavicle, FR-First rib, LV-Left ventricle, P-Pulmonary artery, -Left and Right Hemidiaphragm (LD, RD) and T-Trachea, 1T-First thoracic vertebra.

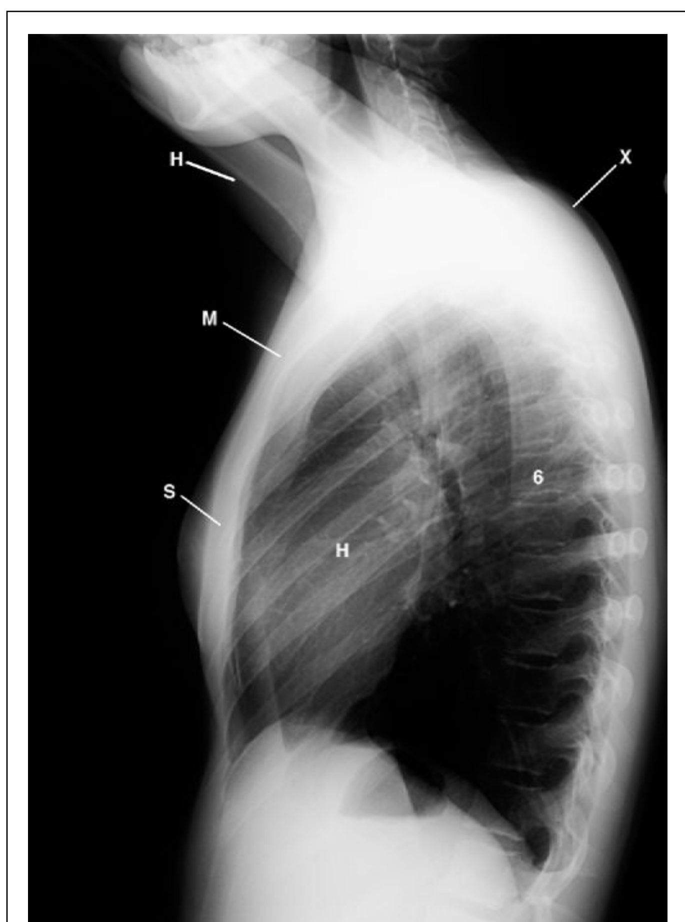

FIGURE 2. Lateral Chest Radiograph

The lateral chest radiograph displays the increased slopes of the first ribs (not labeled) backwardly displacing the manubrium (M) and sternum (S), mild kyphosis of the cervicothoracic spine accentuated by the anterior bowed body of the sternum, and rounding of the shoulders (X)

H-Heart, M-Manubrium, T-Trachea, X-Rounding of the shoulders, 6-Sixth thoracic vertebra

of problems swallowing solid foods since age seven years. She recently developed pain in the right chest wall with inspiration, in addition to common thoracic outlet syndrome (TOS) complaints of headache, dizziness, hand pain, tingling and numbness, muscle pains in the neck and shoulders and back, along with jaw pain and whooshing sounds in the ears.[1,2]

CLINICAL HISTORY

The clinical history provided by her mother indicated that she began having trouble swallowing prior to the scheduled bilateral MRI/MRA/MRV of the brachial plexus. At age 4 years, she was diagnosed with asthma and had to take medication. At age 5 years, she was diagnosed with juvenile arthritis because she presented with right wrist pain that progressed to involve the joints of the right fingers. She was initially evaluated by her pediatrician who referred her to an orthopedist who obtained x-rays of her right and left wrists. A right dorsal lunate subluxation was found. She was then referred to an adult rheumatologist who evaluated her laboratories for systemic inflammation. Labs were all negative. CBC revealed a white count of 6.7, hemoglobin of 14, hematocrit of 40.2, and a platelet value of 279. Her differential was N 47, L 41, M 6–5, E 5.1 and B 0.3. The rheumatologist ordered a wrist guard and had her wear it during school as well as during physical education. Her mother observed she complained much less with the help of the wrist guard. She complained of difficulty when combing her hair, difficulty holding a pencil or pen in school. The pain never awakened her at night.

Past Medical History: Significant for Asthma, Atopic dermatitis, Allergic rhinitis. Immunizations were up to date. PPD was negative and Chicken pox status: vaccinated.

Social History: She had no siblings, pets, and did not report travel.

Allergies: Amoxicillin gave her a rash and pollens.

Review Of Systems: Positive for Asthma; atopic dermatitis: 3–4 episodes of diffuse chest pain unrelated to exercise; “dizzy” sensations in her legs; positive joint pain in the bilateral wrists and right finger.

Physical Examination: Vitals: Temperature 36.7, blood pressure 99/45 mm Hg, heart rate 60 beats/min, respiration

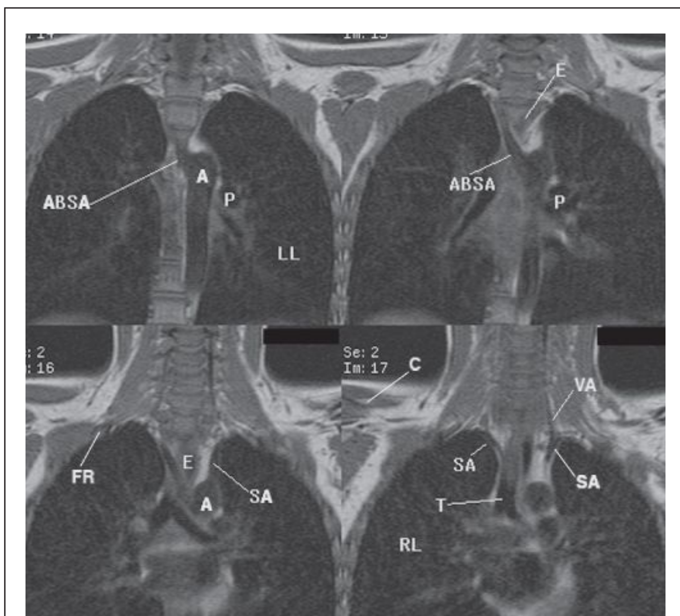

Figure 3. This is a coronal 4/4 T1-Weighted MRI

Image that displays the origin of the dilated aberrant right subclavian artery (AB.S.A) image 14, ascending from the aorta (A) posterior to the esophagus (E) image 15, from the descending aorta, images 14–17.

A-Aorta, C-Clavicle, FR-first rib, LL-left and RL-right lung, P-pulmonary artery, SA-subclavian artery, T-trachea, VA-left vertebral artery

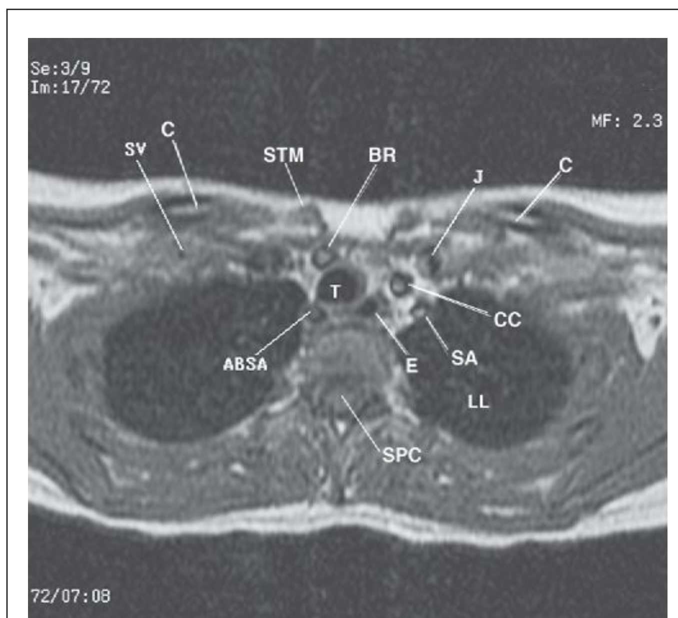

FIGURE 4

This a transverse T1 weighted image that displays the bulbous expanded right subclavian vein (SV) over the right first rib (not labeled) as compared to the left subclavian vein on the left first rib (not labeled), left lower than right reflecting impedance to venous return. Observe the aberrant right subclavian artery (AB.S.A) posterior right lateral to the trachea (T) on the vertebral body (not labeled). BR-high proton dense brachiocephalic artery, C-clavicle, E-esophagus, J-left internal Jugular vein, CC-left common carotid artery, LL-left lung, SA-left Subclavian artery, SA-Subclavian artery, SPC-spinal canal with the spinal nerve, STM-sternocleidomastoid muscle, T-Trachea.

Download English Version:

https://daneshyari.com/en/article/4199348

Download Persian Version:

https://daneshyari.com/article/4199348

Daneshyari.com