

Case 291

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History

48/M, intermittent swelling, tenderness, and pain on left upper chest wall

Radiologic Findings

Figs 1. Chest PA shows bony sclerosis and overgrowth in bilateral clavicles and upper ribs.

Fig 2-3. Bone window setting of the chest CT scan shows mixed sclerotic and osteolytic change and swelling of the sternum, bilateral clavicles and ribs.

Figs 4. Bone scan with technetium 99m methylene diphosphonate (Tc99m-MDP) shows increased uptake in the sternum, bilateral clavicles and ribs.

Sternocostoclavicular Hyperostosis

Brief Discussion

The classic form of sternocostoclavicular hyperostosis is characterized by distinctive bone overgrowth and soft tissue ossification of the clavicle, anterior portion of the upper ribs, and sternum. Patients usually are in the fourth to sixth

decades of life. Men are affected more frequently than women. Bilateral symmetrical involvements predominate.

Clinical findings include pain, swelling, tenderness, and local heat in the anterior upper chest. Bony overgrowth may lead to occlusion of the subclavian veins. Approximately 30 to 50 percent of patients with sternocostoclavicular hyperostosis reveal evidence of pustulosis palmaris et plantaris. The sternocostoclavicular hyperostosis reveals a protracted course with periods of exacerbation and remission.

The major radiographic abnormalities of sternocostoclavicular hyperostosis are seen in the anterior and upper portion of the chest wall. Hyperostosis of the sternum, clavicle, and upper ribs is encountered. Additional changes occur in the vertebral column and include spinal outgrowths that resemble those of ankylosing spondylitis, diffuse idiopathic skeletal hyperostosis, or psoriatic spondylitis.

The diagnosis of sternocostoclavicular hyperostosis can be applied most confidently to an illness of adults in which bone hypertrophy and ligamentous ossification involves the structures of the anterior chest wall. Other features, including pustular skin lesions, spinal and tubular bone involvement, and subclavian venous obstruction, may or may not be present.

References

1. Resnick D. Osteomyelitis, septic arthritis, and soft tissue infection: Mechanisms and situations. In Resnick D. Diagnosis of bone and joint disorders. 2nd ed. Philadelphia: Saunders, 1995: 1228-1229