

A Case of Sternoclavicular Pyoarthrititis with Septic Shock

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Abstract: A 65-year-old woman was admitted to a local hospital for the treatment of bacterial knee arthritis after undergoing total knee prosthesis three months prior to being admitted to our hospital. Her past history included rheumatoid arthritis, diabetes mellitus, left calcaneus fracture and left femoral neck fracture requiring operation. She had been discharged after the improvement of the infection without antibiotics three weeks prior to being admitted to our hospital. However, she noticed left sternoclavicular joint pain one week prior to being admitted to our hospital and was re-admitted the local hospital due to signs of infection at the left sternoclavicular joint. Puncture at the joint confirmed the presence of pus. She was treated with antibiotics but her circulation and consciousness deteriorated, and she was transported to our department. Chest computed tomography depicted fluid collection with ring enhancement at just in front of and behind the left sternoclavicular joint. She received fluid resuscitation, a cefazoline infusion, and urgent aggressive open abscess drainage. After these treatments, her consciousness and unstable circulation dramatically improved and she became able to feed herself. Sternoclavicular pyoarthrititis is rare disease for which a prompt diagnosis and treatment are required to obtain a favorable outcome.

Keywords: sternoclavicular joint; abscess; diabetes mellitus.

INTRODUCTION

Septic arthritis mainly occurs in the knee, hip and foot joints. Arthritis of the sternoclavicular joint is rare, accounting for approximately 1% of all cases of septic arthritis [1]. Sternoclavicular joint pain sometimes requires the differential diagnosis of shoulder, thoracic and cervical diseases, synovitis, acne, pustulosis, hyperostosis, and osteitis (SAPHO) syndrome, pseudogout or bony tumors because patients may initially complain of anterior chest discomfort, and painful, restricted homolateral shoulder motion are the chief complaints [1,2]. The multimodal approach that is required in the absence of a radiological reference standard may contribute to a prolonged diagnostic process [3]. We herein report a case of rare sternoclavicular pyoarthrititis with septic shock.

CASE PRESENTATION

A 65-year-old woman was admitted to a local hospital for the treatment of left bacterial knee arthritis after total knee prosthesis three months prior to being admitted to our hospital. Her past history included rheumatoid arthritis, diabetes mellitus, left calcaneus fracture and left femoral neck fracture requiring operation. Her family story was unremarkable. She had been discharged after the improvement of infection without antibiotics three weeks before being admitted to our hospital. However, she noticed left sternoclavicular

joint pain one week before being admitted to our hospital and she was re-admitted to the local hospital due to signs of infection at the left sternoclavicular joint. Puncture of the joint confirmed the presence of pus. She received antibiotics, but her circulation and consciousness deteriorated and she was transported to our department. On arrival, her Glasgow Coma Scale was E3V4M6. Her vital signs were as follows: blood pressure, 118/74 mmHg under 0.25 microgram/kg/minute of noradrenaline; heart rate, 130 beats per minute; and percutaneous saturation, 99% under 10 L per minute of oxygen. She had a painful left sternoclavicular joint with swelling and redness. Chest roentgenography and electrocardiography revealed no specific findings other than sinus tachycardia. A venous gas analysis revealed the following findings: pH, 7.446; PCO₂, 35.3 mmHg; HCO₃⁻, 23.9 mmol/l; base excess, 0.6 mmol/l; and lactate, 1.4 mmol/l. The main results of a blood analysis were as follows: white blood cell count, 15,300/mm³; total protein, 5.4 g/dl; albumin, 1.8g/dl; glucose, 304 mg/dl; and alkaline phosphatase, 1055 IU/L. Head computed tomography (CT) was negative but enhanced chest CT depicted fluid collection with ring enhancement just in front of and behind the left sternoclavicular joint. She received fluid resuscitation, cefazoline infusion and urgent aggressive open abscess drainage by anterior neck incision in the emergency room under local anesthesia, and was

admitted to the intensive care unit. Cefazoline was selected based on the pus culture results at the referring hospital. On the 2nd hospital day, her consciousness and unstable circulation dramatically improved and she was able to feed herself. Daily irrigation of the infected regions resulted in control of the local infection. She was transferred to the orthopedics department for follow-up.

DISCUSSION

Ross *et al.* reported that a maximum of 180 cases of sternoclavicular septic arthritis are described in the literature [4]. The mean age of the patients was 45 years, and 73% of the patients were male. Common risk factors included intravenous drug use (21%), distant site of infection (15%), diabetes mellitus (13%), trauma

(12%), and an infected central venous line (9%). No risk factors were found in 23% of the cases. The risk factors of the present case were distant site of infection and diabetes mellitus. Serious complications, such as osteomyelitis (55%), chest wall abscess or phlegmon (25%) and mediastinitis (13%) were common, similarly to our case. The delayed diagnosis and treatment of sternoclavicular septic arthritis led to high incidence of severe mediastinitis and a mortality rate of more than 10% [3,4]. Modern diagnostic modalities, such as CT and/or MRI, are useful for detecting and grasping the expansion of infection. The present case was promptly diagnosed based on the initial CT findings and urgent aggressive drainage of the whole abscess and the appropriate selection of antibiotics resulted in a favorable outcome.

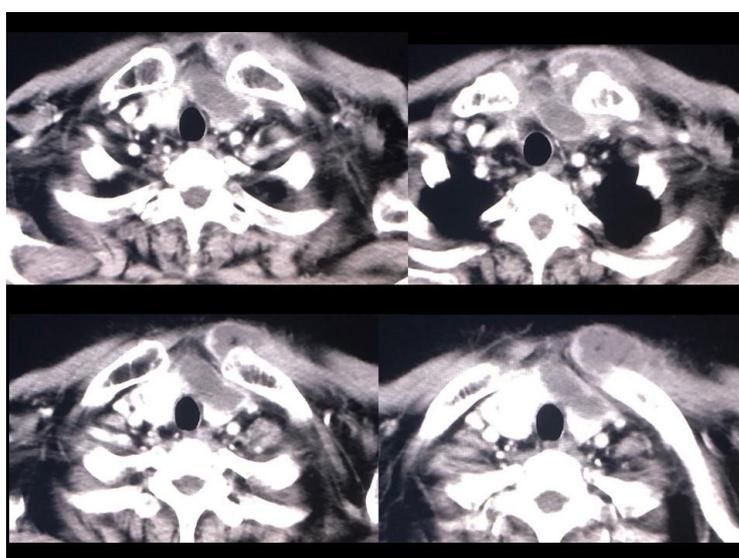


Fig-1: Chest computed tomography (CT) on arrival Chest CT depicted fluid collection with ring enhancement just in front of and behind the left sternoclavicular joint. The proximal side of the clavicular bone became osteolytic due to osteomyelitis

CONCLUSION

We reported a rare case of sternoclavicular of pyoarthrosis. A prompt diagnosis and treatment are required to obtain a favorable outcome in patients with this rare condition.

Conflict of interest statement

The authors declare no conflicts of interest in association with the present study.

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