

A Joint to Remember- A Case Series of Sternoclavicular Joint Swelling in Nigeria

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ABSTRACT

The sternoclavicular joint (SCJ) is the forgotten joint of the pectoral girdle. Swelling of this joint is not a common clinical presentation but due to its prominence at the base of the neck and its subcutaneous location, most patients present early. Yet, due to the small size of the joint, advanced imaging (CT scan or MRI) is usually required for definitive diagnosis, which may be too expensive for most patients in low to medium resource settings. This lack of a definitive diagnosis in non-traumatic lesions of the SCJ may contribute to the paucity of articles on this condition from Africa. We report five cases of swelling in this joint, four of which were diagnosed as Osteoarthritis and one as a ligament sprain. All patients were treated with NSAIDs and those with Osteoarthritis also had Physiotherapy. The pain resolved in three of the patients, but the swelling persisted. The remaining two stopped attending clinic for follow up.

Keywords: Osteoarthritis, sternoclavicular, manubriosternal, Nigeria, Africa

INTRODUCTION

The sternoclavicular joint is the forgotten joint of the pectoral girdle. Anatomically, it is the manubriosternal joint but has traditionally been termed the sternoclavicular joint (SCJ). It is the latter term that will be used in this discourse. The SCJ is a synovial joint and thus subject to the afflictions of synovial joints-injuries and degenerative, inflammatory and infective arthritis.¹

The joint is a shallow saddle joint comprising the medial end of the clavicle and the superomedial manubrium. The posterior relations of the SCJ are major neurovascular structures, the oesophagus and the trachea.² Involvement of these structures during injury or surgery (direct injury or migration of implants), can result in fatality. The subcutaneous position of the joint makes swellings readily visible and the joint easily palpable. Hence disease in the joint which usually results in swelling and sometimes skin changes, are quickly appreciated by the patient and detected by the doctor.

There have been numerous cases and case series reported in the English literature on SCJ disease or injury, but it would appear there is a paucity of articles from Africa-search of PubMed on the 18th of August 2018 did not yield any such report but search of African Journals Online yielded one case report. Here we report a case series of SCJ swelling in five patients in Southern

Nigeria, with reference to the SCARE template.³

The objective of this case series is to bring to the fore diseases that occur in this joint, highlight the constraints in managing these conditions in resource limited settings and suggest a template for managing these conditions despite the constraints. These patients were managed in a tertiary hospital in Southern Nigeria, in which the CT scan had frequent off seasons at the time. This also highlights the reality that in resource limited settings, not only may the patient be unable to afford advanced imaging, there may also be major difficulties maintaining the device(s). Ethical approval for this case report was granted by the Institutional Research Board.

CASE SERIES

Case 1

She was 46-years-old, with a 2-month history of pain and swelling at the right SCJ. There was no stiffness in moving the right upper limb and no related disability. There wasn't any related trauma, fever, night sweats or difficulty swallowing. She did not have a prior history of a similar swelling nor marked pain in other joints.

She was not pale or febrile. She had an enlarged right SCJ, which was not warm, elicited mild tenderness and was solid (see Figure 1). There was full range of motion of the ipsilateral upper limb and its neurovascular status was normal. A radiograph revealed an irregular sternal end of the right clavicle. A diagnosis of right Sternoclavicular joint osteoarthritis was made. She was placed on NSAIDs and Physiotherapy. However, she was lost to follow-up and her case note could not be located at the medical records department for this report.

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Figure 1: Clinical photograph showing swelling of the right SCJ in a 46-year-old woman.

Case 2

She was 53 years old, with a 1-month history of gradual onset pain at the left SCJ. The pain occurred mostly at night. There wasn't any stiffness of the left upper limb or related disability. There wasn't any related trauma. She did not have difficulty swallowing neither was there a prior history of swelling. She was not pale or febrile. There was an enlarged left SCJ (see Figure 2). Overarm and posterior thrust movements of the left shoulder were painful but there was full range of motion. She had deep tenderness over the left sternoclavicular joint. A radiograph of both SCJ revealed normal findings. A working diagnosis of Osteoarthritis of the left SCJ was made. She was placed on NSAIDS and Physiotherapy. Recent contact with her revealed that the pain had resolved but the swelling of the left SCJ has persisted.



Figure 2: Clinical photograph showing swelling of the left SCJ in a 53 year old woman.



Figure 3: Radiograph of both SCJ in a 53-year-old woman revealing normal features.

Case 3

He was 44 years old, with a 2-month history of pain and swelling at left sternoclavicular joint. There weren't any symptoms referable to adjacent structures. There wasn't a history of direct trauma. He also had pain in the left shoulder. He was not pale and not febrile. There was an enlarged left SCJ. He had full range movement of the ipsilateral shoulder. A radiograph revealed no marked anomalies. A working diagnosis of Osteoarthritis of the left SCJ was made. He was lost to follow up and his records could not be located.

Case 4

This was a case of a 60-year-old male with a 2 month history of pain and swelling at the right SCJ. There wasn't direct trauma. He did not have difficulty with shoulder motion. He had received care by a traditional bone setter without improvement in his symptoms. He had chronic low back pain.

He was not pale and not febrile. There was an enlarged right SCJ (see Figure 4). It was mildly edematous and tender. There was mild pain at the extremes of shoulder movement but full range neck movement.

The radiograph revealed irregular joint margins and subchondral sclerosis of the right SCJ (see Figure 5). A diagnosis of right SCJ osteoarthritis was made. He was commenced on NSAIDS and Physiotherapy. Recent contact with him revealed that the pain in his right SCJ had resolved, though the swelling persisted.



Figure 4: Clinical photograph showing swelling of the right SCJ in a 60-year-old man in case 4 above.



Figure 5: Radiograph of both SCJ in the 60-year-old man in case 4, showing irregular joint margins and subchondral sclerosis of the right SCJ. Unfolding of the aorta is also noted.

Case 5

She was a 32-year-old woman who presented with a two-month history of swelling in the left SCJ. The swelling progressively increased in size over several days. There was associated pain, which was aggravated by massage administered by massage hawkers but relieved by injectable analgesics. The symptoms in her left SCJ started within a week of her first parturition, which was delivered per vagina. There wasn't a history of direct trauma neither were there any systemic symptoms. Her left SCJ became progressively more painful, requiring opioids for short term relief. She was not pale and not febrile.

The left sternoclavicular joint was swollen and mildly tender but not warm. A radiograph and a MRI of the SCJ did not reveal

any lesion in the joint. A diagnosis of a sprained left SCJ ligament was made. She was placed on NSAIDS and Vitamin E and made a rapid recovery. She is very satisfied with the treatment and feels Vitamin E was essential to her recovery. It was noted that despite the resolution of the pain, the swelling persisted. She gave written consent for the anonymous use of her materials, including the pictures.



Figure 6: Radiograph of both SCJ in a 32-year-old woman.

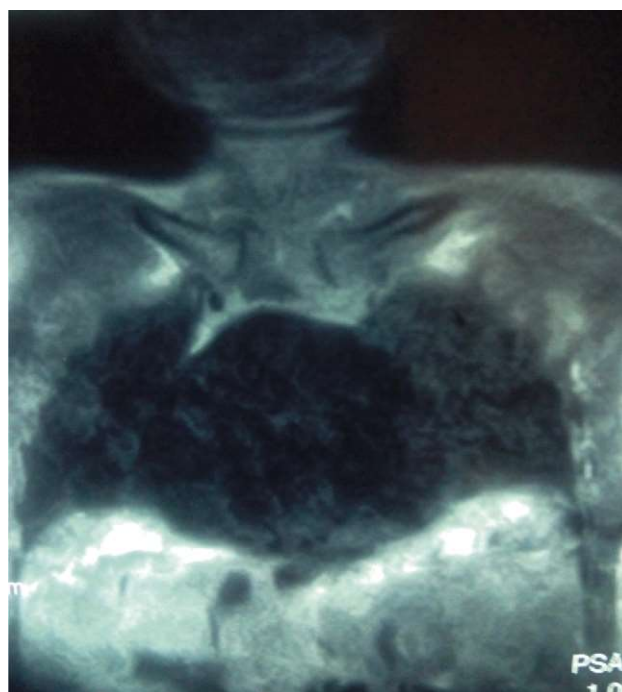


Figure 7: Coronal view MRI of both SCJ in a 32-year-old woman.

SUMMARY

In four of these patients, diagnoses of Osteoarthritis of the affected Sternoclavicular joint were made and they were placed on NSAIDS and

referred for Physiotherapy. The Physiotherapy measures applied included thermotherapy, mobilization, soft tissue massage and range of motion exercises. Follow up was not sustained but initial findings were that the condition did not respond significantly to NSAIDS and Physiotherapy. Long term findings from three of the patients revealed that the pain eventually resolved but the swelling persisted.

DISCUSSION

Diseases of the SCJ are uncommon but published material from low to middle income settings is rare. This may be due to the lack of access to the resources required to provide definitive diagnoses in non-traumatic conditions affecting the SCJ, especially a CT scan or an MRI. These cases were therefore presented without definitive diagnoses in two out of the five cases, because more advanced imaging was required but financially unavailable.

Surgical treatment of SCJ lesions requires caution, even in high resource countries, because of the high risk of fatal injuries to the vital structures that make up its posterior relation. Hence, the treatment of non-traumatic conditions of the SCJ is usually non-specific - analgesics, intra-articular steroids and physiotherapy and those of any associated systemic disorder, for example in rheumatoid disease, with antibiotics for septic conditions (combined with joint aspirations under ultrasound guidance where necessary).⁴ The treatment of traumatic lesions of the SCJ is often conservative, with surgical options utilising closed methods more than open approaches but both requiring the presence of thoracic surgeons.⁵ There is an increasing trend for arthroscopic approaches in highly specialized settings.⁵

Osteoarthritis of the SCJ is the commonest non-traumatic condition affecting the SCJ.¹ In the patients in whom the radiograph did not provide features of osteoarthritis, the clinical details and epidemiology was used to make a working diagnosis of Osteoarthritis of the SCJ. It is possible that the radiographic features of Osteoarthritis of the SCJ may take longer to manifest in patients because the joint is not weight bearing and only undergoes passive movement-yet, due to its position and subcutaneous location, patients with SCJ swelling tend to present early. Thus, without advanced imaging, a clinician may consider utilising the clinical features and available imaging to make a working diagnosis and prescribe the standard treatment. This approach can apply in rural areas where most patients in this environment reside.⁶

The loss to follow up in these cases is the 'rule rather than the exception' and do not make for concluding on the diagnosis and ensuring the patients recovery. Inadequate health records and public health infrastructure makes locating the patients quite difficult, as was noted in two of the cases. Three patients were traced by personal effort and it was found that the pain had mostly resolved, while the swelling persisted. It remains to be seen by long term observation whether this is the natural history of nontraumatic aseptic SCJ swellings in this environment or a defined response to therapy. In addition, long term follow-up and advanced imaging would help to detect patients with the rare condition termed condensing osteitis of the clavicle, which is often misdiagnosed as Osteoarthritis of the SCJ in the early stages.⁷

This case series indicates a simple template for the management of patients with non-traumatic aseptic sternoclavicular swellings in low to middle income countries, despite the lack of advanced imaging. It also draws attention to an uncommon constellation of these atraumatic SCJ swellings in this environment and provides an impetus for other authors in this environment to publish any cases they may have.

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