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Case Report

Complex regional pain syndrome type I following pacemaker implantation

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ABSTRACT

A 70-year-old woman presented with burning pain and swelling over dorsum of right hand and small joints of the fingers, associated with redness, feeling of warmth, and stiffness of the fingers, with inability to bend the fingers since 2 months. The symptoms were progressively increasing in intensity for the past 1 month. There was no history of fever or trauma to the hand. Two months before her symptoms started, she had permanent pacemaker implanted for complete heart block with syncope. She was hypertensive and was on regular medication. Her X-ray of right hand showed decreased bone density (demineralisation), suggestive of osteopenia. A diagnosis of reflex sympathetic dystrophy syndrome or complex regional pain syndrome type I induced by pacemaker insertion was made. She was treated with amitriptyline and steroids, after which her symptoms improved dramatically.

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1. Introduction

Reflex sympathetic dystrophy is an uncommon entity, which usually occurs secondary to nerve injury, surgery, high impact trauma (like gun-shot injury), bone fractures, trivial soft tissue injury, brain lesions like stroke, and in some cases triggers cannot be found.¹ It is rarely seen after permanent pacemaker implantation. We report a case of a patient who developed complex regional pain syndrome (CRPS) 2 months after pacemaker insertion.

2. Case report

A 70-year-old woman developed burning pain and swelling over dorsum of right hand and small joints of the fingers,

associated with redness, feeling of warmth, and stiffness of the fingers with inability to bend the fingers since 2 months. The symptoms were progressively increasing in intensity for the past 1 month. There was no history of fever or trauma to the hand that she could recall. Two months prior to the development of her symptoms, she had permanent pacemaker (VVI) inserted for complete heart block with syncope. She was hypertensive for the past ten years and was on regular medication (Losartan 50 mg BD) for the same. There was no history of other significant medical ailment in the past. On admission, she was coherent, had pulse of 60/minute, regular, and BP-140/80 mm Hg. Examination of parameters in the cardiovascular, respiratory, abdomen, and nervous systems were within normal limit. Local examination revealed erythema and swelling in the right wrist, metacarpophalangeal joints, and proximal interphalangeal joints, as well as distal interphalangeal joints (Fig. 1). The above joints were extremely

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Fig. 1 – The swollen, painful right hand of early RSD with tender joints.



Fig. 2 – X-ray wrist joint showing osteopenia in the right hand; the joint spaces are normal. There are no erosions.

tender, and movements were restricted due to pain. All the other joints were normal. Neurological examination of the hand showed evidence of allodynia and hyperalgesia. Her blood investigations for parameters like hemoglobin, WBC count, liver and renal function tests, and fasting and postprandial blood glucose were normal. The erythrocyte sedimentation rate (Westergren) was 70 mm, at the end of 1 hour. X-ray of right hand including wrist, revealed severe demineralization (osteopenia) in the right hand, especially in the periarticular region (Fig. 2). There were no joint erosions. Her chest X-ray was normal showing the implanted pacemaker on the right (Fig. 3).

Considering the fact that pacemaker implantation done about 2 months back, blood examination being normal, the X-ray findings, which were apparent only in the involved hand, and there being no other episodes of trivial trauma or injury in the past 2 months following pacemaker insertion, which the patient could recollect, that could have triggered CRPS, diagnosis of CRPS secondary to pacemaker implantation

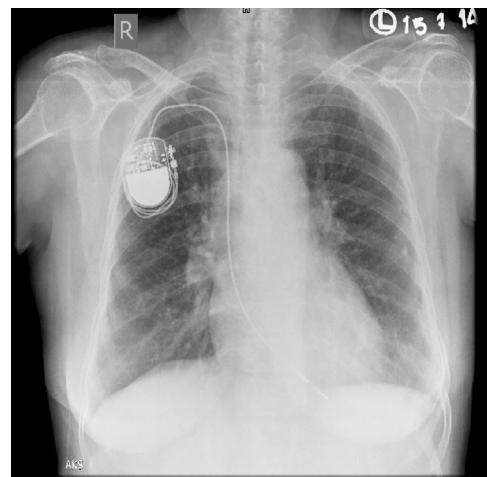


Fig. 3 – X-ray chest showing the implanted pacemaker.

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