Nosocomial infective endocarditis due to a retained guide wire

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Introduction

Intravascular guiding devices are widely used today, especially in intensive care units and by interventional cardiologists and radiologists. Mishandling of such devices could give rise to serious complications. We report an unusual case of infective endocarditis that occurred under such circumstances.

Case report

A 55-year old woman employed in Kuwait suffered severe accidental burn injuries. She was treated in a high dependency unit for two weeks and ten weeks in a general surgical ward. After discharge from the hospital she returned to Sri Lanka. Although the wounds were heal-

ing, low-grade fever had troubled her during the last 3 weeks of hospital stay in Kuwait. The day after returning home she was admitted to a surgical ward with fever and feeling unwell, and treated with intravenous broad spectrum antibiotics for 5 days. As her condition worsened and no surgical cause could be found she was referred to our unit.

Apart from fever associated with chills and rigors, she had mild breathlessness, a dry cough and marked loss of appetite. The burn injuries were healed except for a small area over the right thigh, which was not infected. The rest of the clinical examination was normal except for mild pallor and a few crackles over the lower zone of the right lung. Urine analysis showed granular casts. The haemoglobin was 9.2 g/dl and the total white cell count was

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17 200/ μ l with 88% neutrophils. The ESR was 150 mm in the 1st hour. Two of three blood cultures yielded methicillin resistant *Staphylococcus aureus*. The radiographs showed a mobile, linear opacity (Figure) within and extending

beyond the middle mediastinum (A, B and D). The transthoracic echocardiogram showed large vegetations in the right atrium extending from the orifice of the superior vena cava to the opening of the inferior vena cava (arrowed in C).

The patient was started on antibiotics and transferred to a specialised unit for retrieval of the foreign object within the mediastinum and possibly going through the heart.

It was retrieved percutaneously using the "snare and catheter capture technique". It appeared to be a guide wire that may have been used for insertion of a central venous line via the femoral vein. There were multiple vegetations attached to it in the area that would have been within the right atrium (E).

The patient improved transiently, but rapidly deteriorated with septicaemia, multiple lung abscesses and acute renal failure. Eventually she recovered with antibiotic therapy and supportive care including peritoneal dialysis.

Discussion

Guide wires are well known to slip or break. Retrieval by a percutaneous method or by formal venotomy is very important as leaving it may lead to serious complications. One such complication is infective endocarditis. The guide wire can act as a foreign object on which organisms grow, and progress to infective vegetations, septicaemia, septic embolisation and abscess formation. The diagnosis may be delayed as it may not be suspected or overlooked in a patient who is ill. The organisms causing nosocomial endocarditis are often virulent coagulase negative staphylococci or methicillin resistant, *Staphylococcus aureus*, making therapy more difficult and increasing the risk of complications such as valve destruction (1, 2).

This case illustrates the need to be more vigilant during invasive procedures using guidewires. It is important to ensure that guide wires are removed and inspected for any possible fractures. Routine xray will further improve safety.

References

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Figure. Xray showing guide wire in situ, echocardiogram showing vegetation and extracted guide wire showing vegetation.