DESCRIPTION

A 45-year-old female patient was admitted with recurrent syncope of 1 month duration. An emergency temporary transvenous right ventricular pacing electrode was placed for complete heart block. The patient developed chest pain and giddiness the following day and electrocardiogram revealed failure to capture and undersensing, with right bundle branch block morphology (figure 1). The possibility of lead dislodgement was considered. Fluoroscopy in antero-posterior projection revealed the pacing electrode positioned well beyond the cardiac silhouette (figure 2), suggestive of right ventricular perforation. There was no evidence of pericardial effusion or tamponade by echocardiography. Another temporary transvenous pacing electrode was first placed in the right ventricle and later the perforated lead was slowly withdrawn without complications. The patient was haemodynamically stable and was monitored by serial echocardiography. Chest x-ray was normal. Three days later, she underwent permanent pacemaker implantation successfully. Catheter induced perforation of cardiac chambers is a well-known entity.\(^1\)\(^2\) The most dramatic outcome of lead perforation is cardiac tamponade. Other findings include diaphragmatic contraction, right bundle branch block pacing pattern or increasing stimulation threshold. In individuals without myocardial damage, removal and repositioning of the electrode, followed by serial echocardiography is required.\(^3\)

In the present report, the patient was pacemaker dependent. Hence, we preferred to first stabilise the patient with another temporary transvenous pacing electrode before manipulating the perforated lead. There was no evidence of structural heart disease and hence removal of perforated lead under fluoroscopic guidance was undertaken with vigilant monitoring for possible complications. To conclude, lead perforation is an important consideration in a paced individual with new onset of symptoms and abnormal electrocardiogram. Although lead perforation is associated with the risks of cardiac tamponade or pneumothorax, the main problem is usually with pacing failure. Management is influenced by the presence or absence of underlying myocardial disease and the ability to achieve spontaneous haemostasis.

Figure 1  ECG with pacemaker spikes, but absence of capture and undersensing. In addition, right bundle branch block morphology can be appreciated.
Figure 2  Fluoroscopy of chest in antero-posterior view depicting pacemaker lead perforating the right ventricle.

Competing interests  None.

Patient consent  Obtained.

REFERENCES