

The use of leadless pacemaker to facilitate treatment of breast cancer: a case report

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Background

The number of cancer patients with cardiac implantable electronic devices (CIEDs) is increasing. Administering radiotherapy to these patients can be challenging. Ionising radiation can cause dose-dependent device malfunction, and the CIED generator may present a physical barrier to therapeutic delivery when in the radiation field.

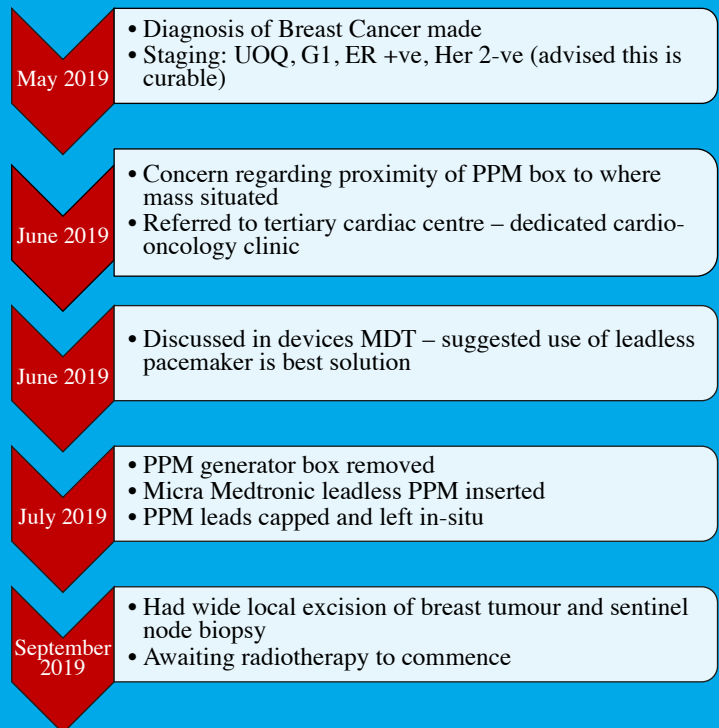
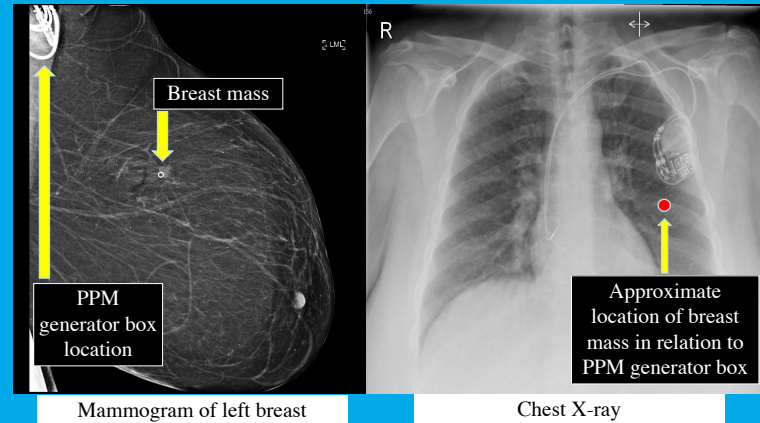
Case

A 49 year old lady with a history of cardiac sarcoidosis requiring dual chamber pacemaker implantation nine years previously for intermittent third-degree atrioventricular block, presented with a left upper outer quadrant breast tumour (Grade 1, ER+, HER-2 -ve). Planned treatment was lumpectomy and radiotherapy. However, the proximity of the device generator to the mass was considered likely to impede radiotherapy delivery and risk device malfunction. Additionally, the surgical field would breach the generator pocket risking infection. A combined cardio-oncology and electrophysiological opinion was sought.

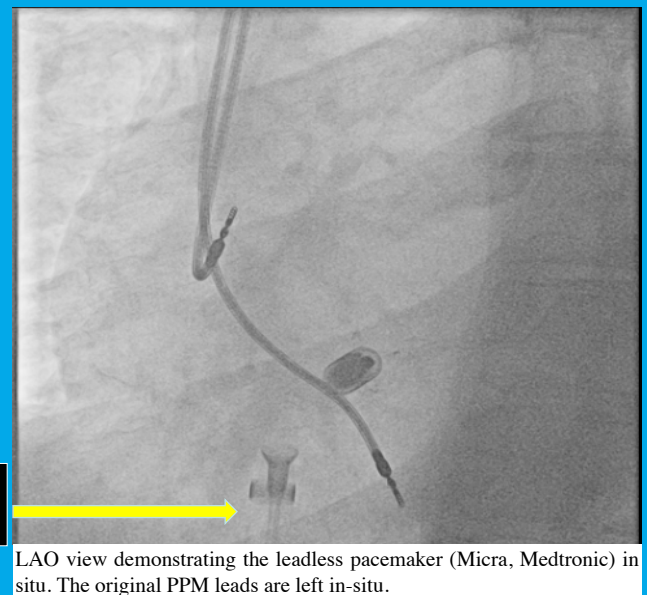
On device interrogation, the underlying rhythm was sinus, and in the DDD pacing mode there had been just 0.5% ventricular pacing. Given the risk of complete CIED system extraction, a novel solution was implemented with implantation of a leadless pacemaker (Micra, Medtronic) to provide back-up pacing. The CIED generator only was removed and leads capped and left in situ. The patient then underwent standard surgery and radiotherapy administration. Should her pacing requirements increase in the future, a standard pacemaker generator could be re-attached to her current leads.

Conclusion

Administration of radiotherapy to CIED patients is becoming more common. However with emerging technologies, new solutions have become available for such patients avoiding the significant risks of device extraction.



Micra delivery device being withdrawn



References

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