

Safety of tomotherapy in brain tumor patient with pacemaker in situ – A case report

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Due to the population ageing and growth, there is an increase in the incidence of cancer cases and cardiovascular conditions. Hence, there is a higher possibility of having both diseases in a single patient during their lifetime thus; patients with implantable cardiac rhythm devices undergo radiotherapy (RT) for cancer. Controlling dose to pacemaker in Tomotherapy is challenging as a result we describe this case of a female with a brain tumor and pacemaker and receiving tomotherapy. A 55-year-old female complained of headache, increased aggression and weakness in right arm and leg in the last 1 month. She later on had an episode of seizure for which she was taken to a nearby hospital. The brain MRI was then done showing a 91*61*66 mm lesion in left frontal lobe, involving the left insular cortex and left parasylvian temporal lobe. Histopathological exam showed Gemistocytic astrocytoma grade III tumor. In addition, the patient has a history of hypertension on regular treatment and a permanent pacemaker implant placed for intermittent complete heart block: the pacemaker is dual chamber and rate modulated of St Juid. A tomotherapy was planned with

trying to keep dose to pacemaker as low as possible as it can cause a real challenge: A dose of 60 Gy/30 # was planned along with concurrent chemotherapy. During treatment patient didn't suffer any cardiac event and had grade II skin reaction near left fronto-temporal region with loss of hair in that area. This case report showed that the patient was safely treated on tomotherapy with absence of any cardiac events when adjusting the radiation dose according to the pacemaker.

Key words: Tomotherapy; Pacemaker; Pacing-dependent; cardiac implantable electronic device (CIED); Radiation Therapy.

Biography

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