**Title:**

Displacement of Deep Brain Stimulation (DBS) lead location after implantation: Preliminary result of a study comparing early versus late CT findings

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**Abstract:**

***Objective*:**

To investigate the causes of post DBS implantation displacement and hence measures to prevent post DBS implantation displacement.

***Method:***

Patients undergone DBS from 2010 to 2018 were recruited. The first and second computed tomography (CT) of brain were compared. Lead locations and intracranial air were compared and analyzed.

***Result:***

In total 23 patients were recruited with 46 leads inserted over the period. Same precautions were applied among all operations and all of them were conducted under local anesthesia. There were more intracranial air over left side (p= 0.076). Leads on both sides showed inferior and anterior displacement in the second CT brain.

Lead displacement was likely correlated with intracranial air, the more the intracranial air, the more the lead displacement.

***Conclusion:***

Measures to minimize intracranial air are important to minimize post implantation lead displacement.