

7<sup>th</sup> Global Neurologists Annual Meeting on

# Neuro Surgery and Interventional Radiology

August 22-24, 2016 Vienna, Austria

## Usefulness of skull-mounted frameless image-guided stereotactic brain biopsy system

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**Object:** Frame-based image-guided system is the most widely used for stereotactic brain biopsy. Recently frameless stereotactic biopsy techniques have become utilized. We evaluated the application usefulness of skull-mounted frameless image-guided stereotactic brain biopsy system.

**Methods:** We reviewed consecutive 10 patients using skull-mounted frameless image-guided stereotactic brain biopsy system compared to patients using conventional frame-based system. We evaluated the usability and the advantage of both systems.

**Results:** To set up frameless system needed less invasive procedure and shortened surgical time in comparison to frame-based system. In many cases frame-based system required the drilling of the external table and the diploe of calvaria to insert the biopsy needle away from the skull. Consequently large skin incision were made. On the other hand there is a limit of insertion angle in the frameless system. In one case frame-less system could not be used due to this limitation.

**Conclusion:** With regard to less invasiveness and shortening of the surgical time, skull-mounted frameless image-guided stereotactic brain biopsy system may represent more efficient means of biopsy though there is a limitation of biopsy needle insertion angle.

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