

da Vinci assisted paramedian supracerebellar transtentorial approach to the Mediobasal Temporal Region: a Cadaveric Study Ahmet Akbas; Abuzer Gungor MD; Orhun Mete Cevik MD; Murat Sakir Eksi MD; Mustafa Guduk; Serdar Ozgen; Necmettin

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Introduction

The aim of this study was to assess the feasibility of the paramedian supracerebellar transtentorial approach for the mediobasal temporal access utilizing the da Vinci Surgical System.

Methods

Four cadaveric heads were operated using the da Vinci Surgical System. The craniotomy for the transtentorial approach was performed lateral to the midline. The dural incision was made inferior to the transverse sinus. The system was utilized after the dural incision. The da Vinci surgical system was then used to perform arachnoid dissection and gain access to the mediobasal temporal region as well as the fusiform gyrus.

Learning Objectives

The study investigates the introduction of the robotic systems into neurosurgery. Both the approaches suitable for the system and the system's limitations and possible improvements are investigated. The participants will be able to 1) Learn how the system can be implemented in the transtentorial approach to the mediobasal temporal region 2) Able to investigate possible varieties of the approach 3) Learn more about the system's limitations.



0 degree endoscope PTP = posterior thalamoperforator ATL = Anterior Temporale Lobe HIP = hippocampus

Dissection with the da Vinci system.

Conclusions

In conclusion, the system provides above par comfort for the surgeon due to the patient position. The other, perhaps the favorable advantage of the system compared to the microscopic approach is the enhanced visualization of the deep working environment.



da Vinci 2

0 degree endoscope

Dissection with the da Vinci system.

Results

The main result observed in the study was the improved illumination and 3d perception compared to the visualization of both the surgical microscope and the endoscope. The da Vinci console offered considerable ergonomic advantages over the existing operating room arrangement, allowing the operating surgeon to remain nonsterile and seated comfortably throughout the procedure. The main limitation observed was the lack of haptic feedback.



da Vinci 3

30 degree endoscope

Dissection with the da Vinci system.

References

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