

Clinical evaluation of a novel approach to transtemporal amygdalohippocampectomy.

Juan Antonio Castro Flores; Leonardo Welling PhD; Felipe Sanders; Manoel Teixeira; Eberval G. Figueiredo MD, PhD
Neurological Surgery Department - University of Sao Paulo / Brazil
Neurological Surgery Department - State University of Ponta Grossa / Brazil

Introduction

Surgical resection of mesial temporal structures is usually necessary for the treatment of some focal epileptic syndrome, more commonly temporal mesial sclerosis. Our objective is to describe our clinical results of a novel operative technique for treatment of temporal epilepsy.

Methods

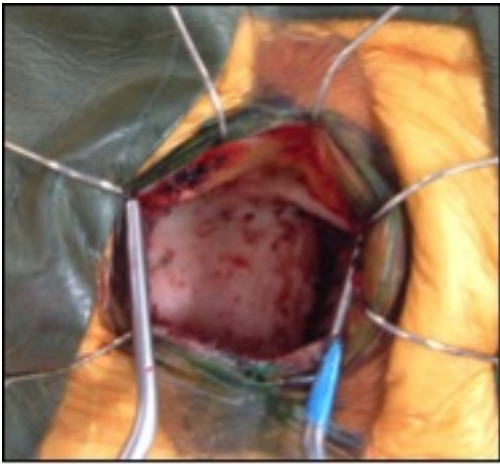
To describe a prospective case-series of a single institution, performed by a single surgeon, from 2006 to 2012, a total of 120 patients were submitted to minimally invasive keyhole transtemporal amygdalohippocampectomy.

Figure 1



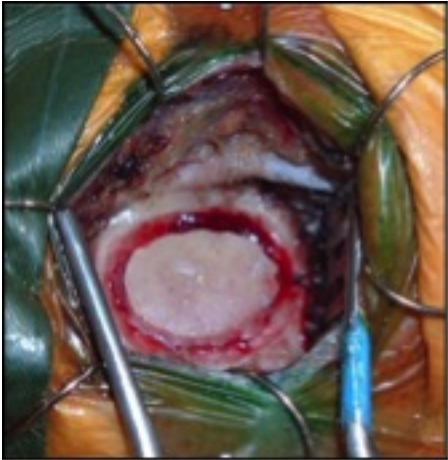
Patient`s head positioned placing the zygomatic arch at the highest point in the surgical field. Skin incision marker (5cm of extension)

Figure 2



Squamous temporal bone exposure after single plane dissection

Figure 3



The keyhole craniotomy (2cm of extension) is centered at hippocampal point

Figure 4



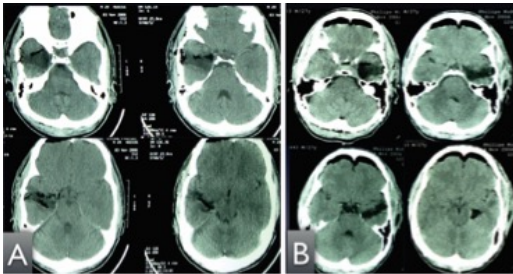
The middle temporal gyrus is exposed

Figure 5



A) The bone flap is repositioned; B) The skin is closed with running sutures

Figure 6



Pos operative CT scan - minimally invasive approach

Results

55% of patients were male, 85% of patients had a right-sided disease. The first 70 surgeries had a mean surgical time of 2.51 hours, and the last 50 surgeries had a mean surgical time of 1.62 hours. There was 3.3% morbidity. There was 5% of mild temporal muscle atrophy. There wasn't visual field impairment. In the Engel Outcome Scale at 2-year follow-up, 71% were Class I, 21% Class II, 6% Class III.

Conclusions

This novel technique is feasible, reproducible and with a good to great clinical result.

Learning Objectives

To describe a novel technique for treatment of temporal epilepsy.

References

Mario A. Alonso Vanegas, Sean M. Lew, Michiharu Morino, Stenio A. Sarmento. (2017) Microsurgical techniques in temporal lobe epilepsy. Epilepsia 58, 10-18. . Online publication date: 1-Apr-2017.

Peng-Fan Yang, Hui-Jian Zhang, Jia-Sheng Pei, Qiao Lin, Zhen Mei, Zi-Qian Chen, Yan-Zeng Jia, Zhong-Hui Zhong, Zhi-Yong Zheng. (2016) Keyhole epilepsy surgery: corticoamygdalohippocampectomy for mesial temporal sclerosis. Neurosurgical Review 39:1, 99-108. Online publication date: 1-Jan-2016.