

Introduction

The most important part to resect in mesial temporal sclerosis is the amygdala. This neural structure is composed by different nuclei, which have to be either resected or protected to have a successful epilepsy surgery. In order to do so, we were using the uncal recess as a key anatomical landmark to achieve safe and successful amygdalar resections in all of our patients. An anatomical review and clinical results are being presented.

Methods

In 20 fixed and injected cadaveric heads extensive anatomical study was done at the Brain Anatomy Laboratory at the University of Florida, Gainesville, FL. Our dissections were compared to the thoroughly histological work published by Duvernoy around this area. Our clinical material consists of 155 patients harboring mesial temporal lobe epilepsy out of more than 300 hundred epilepsy patients operated at the Ramos Mejia General Hospital, Buenos Aires, Argentina.

Results

The uncal recess is located at the most anterior part of the temporal horn, just in front of the inferior choroidal point. It has a vertical orientation, which helps to identify it in comparison to the horizontal head of the hippocampus. Directly beneath this wall stay the cortical nucleus of the amygdala, and beneath it lays the uncal semilunar gyrus with the anterior choroidal artery crossing in its vicinity. This gyrus marks the upper part of the mesial temporal lobe and above that, crossing the enthorhinal gyrus, lays the optic tract and the basal ganglia. Performing subpial suction at the uncal recess during anterior temporal lobectomy permits the complete resection of the basal, lateral and cortical nuclei of the amygdala and also keeps the surgeon away from the optic tract, the basal ganglia and the anterior choroidal artery.

Conclusions

The uncal recess is a clear visible landmark that permits a safe and enough resection of the amygdala during medial temporal lobectomy without entering the basal ganglia and also avoiding the damage of the optic tract and anterior choroidal artery

Fig 1. Microsurgical Anatomy of the Left Uncal Recess

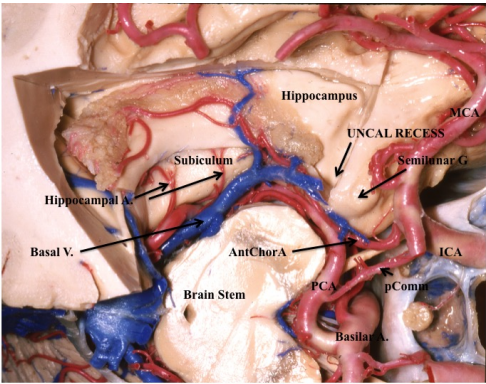
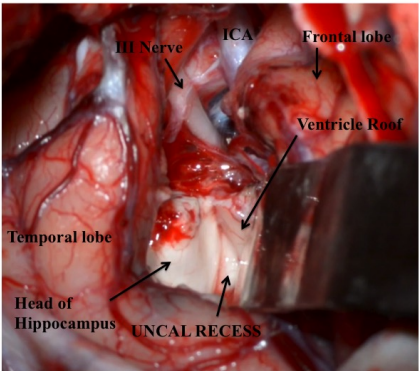


Fig 2. Intraoperative View of the Left Uncal Recess in a Selective Amygdalohippocampectomy



Learning Objectives

Learn the mesial temporal lobe anatomy in relation to the temporal lobectomy. Understand the relationships between the uncal recess, the cortical nucleus of the amygdala, the optic tract and the anterior choroidal artery.

References



Fig 3. Closer Intraoperative View of the Uncal Recess

