Endoscopic Views of the Liliequist Membrane

Imagens Endoscópicas da Membrana de Lilliequist

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ABSTRACT

In this article, the endoscopic views of the Liliequist membrane and adjacent structures, inside the interpeduncular and prepontine cisterns are presented.

Key-words: Endoscopy; Liliequist membrane; Prepontine cistern

RESUMO

Neste artigo são apresentadas imagens endoscópicas da membrana de Liliequist e estruturas adjacentes, no interior das cisternas interpeduncular e pré-pontina.

Palavras-chave: Endoscopia; Membrana de Liliequist; Cisterna pré-pontina

INTRODUCTION

The Liliequist membrane presents a sellar portion implanted in the dorsum sellae, which in turn is subdivided into posterior projection, in a diencephalic portion and a mesencephalic portion\(^1,2,4\). The diencephalic portion has close contact with the ependymal layer and extends to the mammillary bodies, and the mesencephalic portion has a posterior inferior projection, surrounding the mesencephalon\(^3,5,6\). The Liliequist membrane limits the interpeduncular cistern. It has a pars profunda, adjacent to the ependymal layer, containing the anterior group of thalamoperforating arteries, and a pars superficialis, containing the bifurcation of the basilar artery, the posterior cerebral arteries (P1), the superior cerebellar arteries and the oculomotor nerves (CN III)\(^5\). The lower limit of the pars superficialis is the mesencephalic portion of the Liliequist membrane. The recess below the latter is the prepontine cistern\(^5\). MRI is showed in figure 1 and endoscopic views are presented in Figures 2 to 6.

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Figure 1. Sagittal T2-weighted MRI depicting the membrane of Liliequist and cisterns below the third ventricle. A. Ependymal layer; B. pars profunda of the interpeduncular cistern; C. diencephalic portion of the Liliequist membrane; D. pars superficialis of the interpeduncular cistern; E. mesencephalic portion of the Liliequist membrane; F. prepontine cistern; G. insertion of the Liliequist membrane at the dorsum sellae.
Figure 2. A. Liliequist membrane - diencephalic portion; B. thalamoperforating arteries; C. left oculomotor nerve (CN III); D. left posterior cerebral artery (P1).

Figure 3. A. Liliequist membrane - mesencephalic portion; B. right posterior cerebral artery (P1); C. bifurcation of the basilar artery under Liliequist membrane – diencephalic portion; D. ependymal layer; E. left posterior cerebral artery (P1); F. left oculomotor nerve (CN III).
Figure 4. A. Liliequist membrane of mesencephalic portion; B. prepontine cistern; C. basilar artery; D. pontine arterial branch; E. Liliequist membrane - diencephalic portion; F. left posterior cerebral artery (P1); G. left superior cerebellar artery.

Figure 5. A. Clivus; B. Liliequist membrane - mesencephalic portion; C. basilar artery; D. left abducens nerve (CN VI); E. left anterior inferior cerebellar artery (AICA).
References


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Figure 6. A. clivus; B. foramen magnum; C. medulla oblongata; D. left vertebral artery; E. left hypoglossal nerve (CN XII); F. left posterior inferior cerebellar artery (PICA); G. left accessory nerve (CN XI).