Imagens em NEUROLOGIA

The cingulum: from real to virtual dissection

O cíngulo: da dissecção real para a virtual

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The cingulum is a prominent assemble of fibers, being the largest tract of the limbic system, related to attention, memory and emotional integration.[1] It is constituted by two segments – the superior (supracallosal), and the inferior (hippocampal), with short fibers that connect nearby parts of the cingulate gyrus, and adjacent areas of the medial frontal (superior, paracentral), parietal (paracentral, precuneus), occipital (cuneus, lingual, fusiform) and temporal (lingual, fusiform) areas, and long fibers that may extend from the subcallosal gyrus to the uncus.[2] The cingulum (*Zwinge*) was first described and depicted by Burdach,[3] and a fine macrodissection of the tract (*Cingulum* – Figure 18) was provided by Meynert[4] (Figure 1). The first studies of the bases for the tractography technique appeared in 1992, and virtual dissection was implemented in the following years.[5] A tractographic study of the cingulum is here presented (Figure 2).

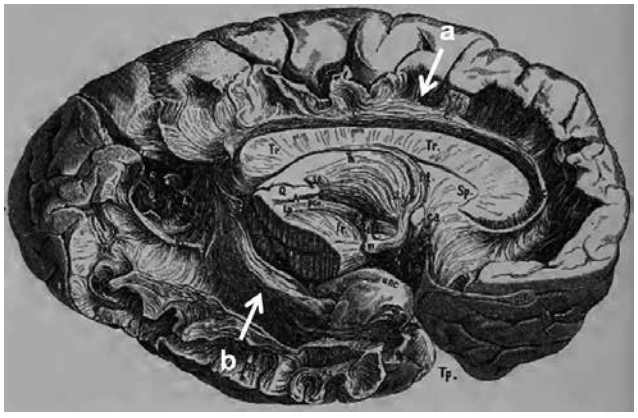

Figure 1. Meynert's "real dissection" of the human brain (Meynert, 1884 – Figure 18).[4] Arrows point to the two segments: **a** = superior (supracallosal) (c.c.c) (with subgenual and retrosplenial parts), **b** = inferior (hippocampal) (not labeled).

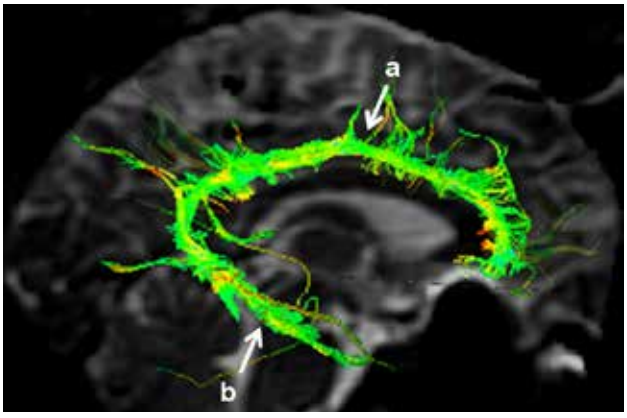

Figure 2. Cingulum tractography – a "virtual dissection" (adapted from Engelhardt and Moreira, 2008, with permission of the RBN [2008;44(4):19-34]). Arrows point to the two segments: **a** = superior (supracallosal) (with subgenual and retrosplenial parts), **b** = inferior (hippocampal).

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