Fornix

The fornix (Latin, “vault” or “arch”) is a C-shaped bundle of fibers (axons) in the brain, and carries signals from the hippocampus to the hypothalamus. The fornix is part of the limbic system. While its exact function and importance in the overall brain physiology is still not entirely clear, it has been demonstrated that surgical transection – the cutting of the fornix along its body – can cause memory loss in humans.

Transcallosal anterior interforniceal approach has a risk of memory impairment (forniceal injury).

There is some debate over what type of memory is affected by this damage, but it has been found to most closely correlate with recall memory rather than recognition memory. This means that damage to it can cause difficulty in recalling long-term information such as details of past events, but it has little effect on the ability to recognize objects or familiar situations.

Amnesia is an uncommon, but increasingly recognised syndrome after damage of the anterior fornices. The fornix forms an integral part of the hippocampal–anterior thalamic pathway mediating memory retrieval, so that lesions of the fornix may selectively impair recall processes [1)]

see Deep brain stimulation of the fornix

1)
Gaffan E A, Gaffan D, Hodges J R. Amnesia following damage to the left fornix and to other sites. A comparative study. Brain 19911141297–1313.1313