

Brain abscess surgery history

The first successful operation for [brain abscess](#) was performed by French surgeon [Sauveur François Morand](#) in 1752 on a temperoethmoidal abscess ¹⁾.

In 1891, [Cemil Topuzlu](#) operated on a BA that originated as a complication of a depression fracture of the cranial inner table; this case is highlighted because it was not only the first case of BA to be treated successfully with surgical intervention in the Ottoman Empire, but also one of the first cases of neurological surgery performed using contemporary anesthesiological and surgical techniques, which reveals the importance of neurological examination and cerebral localization techniques in the era before x-rays ²⁾.

The classic work, *Pyogenic Disease of the Brain and Spinal Cord, Meningitis, Abscess of the Brain, Infective Sinus Thrombosis*, published in 1893, [William Macewen](#) advised draining the abscess and treating the underlying causative sinus infections ³⁾.

As Harvey Cushing noted, the text on pyogenic diseases of the brain was a landmark in surgery of the nervous system. At the time of its publication, Macewen's work was the most comprehensive study of pyogenic brain diseases. In this paper the author reviews the state of knowledge of brain abscess existing in the 19th and 20th centuries, with particular emphasis on the late 19th century, and elucidates factors contributing to Macewen's remarkable success. His thorough knowledge of the natural history of pyogenic diseases of the temporal bone and nasal sinuses, in addition to his clear description of cranial anatomy, as illustrated in his *Atlas of Head Sections*, were especially important in developing his successful treatment of brain abscess. The x-ray had not yet been discovered; Macewen's diagnosis was based on clinical findings superbly illustrated by his three clinical stages of brain abscess development. His clinical observations are as relevant today as when he described them 100 years ago. Macewen recorded 25 cases of brain abscess. Nineteen of these patients came to his attention in time to undergo surgery, resulting in 18 recoveries. All five of his patients with extradural abscess recovered. These results were achieved in the era known as "the most glorious period in British surgery." Neurosurgery was in its infancy; nevertheless, even as the 20th century closes, Macewen's results still have not been surpassed ⁴⁾.

King introduced marsupialization in 1924 ⁵⁾ and Dandy introduced aspiration in 1926 ⁶⁾. Sargent considered the procedure of enucleation of an encapsulated brain abscess in 1928 ⁷⁾.

Vincent popularized complete excision and proved its value in 1936 ⁸⁾.

In 1971, Heineman and colleagues became the first to report the successful medical management of a brain abscess ⁹⁾

The historical methods of surgical drainage have been tube [drainage](#), [marsupialization](#), the migration method of Kahn, and Dandy's sequential tapping of a chronic BA to prevent brain fungus coinfection. ¹⁰⁾

Stereotactic aspiration of brain abscess has become widespread since the introduction of CT-guided stereotaxy in the 1980s, and offers the advantage of precise localization of the abscess cavity.

Barlas, et al. in 1999, reported a reduction in mortality from 18 to 0% in patients with brain abscess from the pre-CT era to the post-CT era, which they attributed to the advent of CT-guided stereotaxis¹¹⁾.

References

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