The case of General Wood

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✓ The first successful operation ever on a parasagittal meningioma was performed in 1910 by Harvey Cushing. The operation turned out to be a critical event in his career as a neurosurgeon and made him confident about the possibilities of brain surgery. The patient was Leonard Wood, Major General and Chief of Staff of the United States Army, who was a military surgeon turned career officer. In the election campaign for the president to succeed Woodrow Wilson in 1920, Leonard Wood, the personification of competence, became the Republican favorite. General Wood was, however, eliminated from the presidential election campaign by complicated intrigues. From the next year on, General Wood experienced increasing warning signs of a recurrent tumor, which he unfortunately neglected. Not until 1927 did Wood again come under the care of Dr. Cushing, who had just returned from Britain, where in the course of a single month he had been awarded no less than seven distinctions from different medical societies. Deeply concerned at Wood’s condition, Cushing decided to attempt extirpation of the recurrent tumor. General Wood died a few hours after the operation. No tragedy caused Cushing more distress than the death of General Wood, who 7 years earlier had been on the verge of being nominated President of the United States.

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Leonard Wood, Major General and Chief of Staff of the United States Army, was a military surgeon turned career officer. Many were the romantic tales from the American Indian wars which surrounded his name. In the summer of 1897, he became acquainted with Theodore Roosevelt. After the meeting the future President enthusiastically wrote to his wife: “In the evening I dined with the Lowndes who were just dear. There was a very interesting Dr. Wood of the army there; he had been all through those last Apache campaigns, which were harassing beyond belief.”

A Regrettable Mishap

After a spell as military governor of Cuba, Leonard Wood had entered the forefront of the contemporary political scene. In the autumn of 1898, he had been unlucky enough to strike his head against a low-hung chandelier with such force that he was confined to his bed for a full week after the accident. Later, Dr. Wood became aware of an exostosis, slowly increasing in size, at the site of the trauma to the cranium, which was on the crown of the head just to the right of the midline. By 1902, there was a sensation of numbness on the outside of the left foot and, in November, 1904, Dr. Wood experienced a sudden spasmodic attack beginning in the left foot, running up the leg, and reaching the muscles of respiration. He did not lose consciousness. After that he had many slight similar attacks.

In 1905, Dr. Wood was operated on for a tumor projecting from the calvaria just to the right of the median line. The tumor was found to be of the psammomatous variety—a soft tumor with a shell of bone—and pressing upon the dura. It was not discovered at this operation that any part of the tumor projected within the dura.

Harvey Cushing Takes On the Case

In January, 1909, Leonard Wood, at the age of 48 years, was referred to Dr. Cushing at the Johns Hopkins Hospital in Baltimore by Dr. Arthur Tracy Cabot because of increasing left-sided Jacksonian attacks with slight post-ictal motor deficits. Since 1895, Cushing had been particularly interested in the meningiomas, and had become increasingly convinced that they were a particular type of brain tumor, with a more favorable prognosis than most of the others.
Even by 1909, however, only the occasional successful operation on an intracranial meningioma had been reported in the literature.4-6,11 It was not until 1922 that Cushing himself, in an article in the periodical, *Brain*, coined the term “meningioma” for this type of benign brain tumor.2 Previous to this, meningiomas had been known by a bewildering variety of terms—“dural endothelioma,” “fungoid neoplasia of the dura mater,” “meningeal fibroblastoma,” and “arachnoid fibroblastoma”—and it had not been clearly understood how to differentiate them from the sarcomas.

**General Wood’s Operation**

When Cushing had examined Leonard Wood at the Johns Hopkins in January, 1909, it was apparent to him that the tumor extended intracranially as well, close to the midline: At first Cushing adopted a conservative attitude, recommending a policy of “wait and see” until such time as surgery might be indicated. There was as yet scanty experience of operations on this type of lesion; in fact, no experience at all of benign midline growths, later to be classified as parasagittal meningiomas. Moreover, the diagnosis of a suspected brain tumor at this time still relied entirely on clinical findings. The important diagnostic aids of cerebral angiography and ventriculography had not yet been discovered.

However, during the autumn of 1909, General Wood’s condition deteriorated by degrees, and in February, 1910, Cushing therefore made the decision to attempt surgery. The operation was carried out in two stages, at an interval of 4 days: at the second stage, Cushing had only to raise the bone flap, which had been sawed out on the first occasion. The dura was opened to expose the surface of the brain in the vicinity of the tumor. There were clear signs of raised intracranial pressure. The tumor was plainly visible just at the border of the sagittal sinus, and Cushing at first took it to be a glioma. However, as he worked his way down in the hemisphere in the plane of demarcation between the tumor and the surrounding parenchyma, it became clear that the limits of the growth were quite clear even to the naked eye. Cushing meticulously dissected in the plane of demarcation, and was able at last to achieve what appeared to be a complete extirpation of the whole tumor, sparing the bridging veins both in front of and behind the area affected by the tumor.

The patient stood up well to the surgery, walking around in his sick-room on the 11th day after the operation.3 He was discharged from the Johns Hopkins Hospital after scarcely a month had passed, at which point he felt his recovery to be virtually complete, and resumed his previous occupations with undiminished vigor.

This was the first time that Cushing had successfully operated on an intracranial meningioma. With the vascularity of such tumors in mind, one can imagine that the technical obstacles encountered most probably were considerable, working as Cushing did with the primitive anesthesia techniques and operating equipment of his time.

The operation on Wood represented a turning point for Harvey Cushing in his career as a neurosurgeon. The successful removal of the parasagittal meningioma from the American Army Chief of Staff (Fig. 1) doubtless helped to secure for Cushing the Moseley Chair of Surgery at Harvard in 1912, and with it the post of Surgeon-in-Chief of the new Peter Bent Brigham Hospital in Boston.10 Long afterward, Cushing stated that he considered it highly fortunate that the surgery on General Wood had been so successful, considering the positive attitude to the possibilities of brain surgery that developed after that very operation.7

**General Wood in the Period 1910–1920**

During the following decade, General Wood led an extremely active life (Fig. 2). He had no epileptic seizures and felt himself to be completely healthy, with unimpaired vigor and in as good a condition as before the tumor symptoms appeared, except for moderate spasticity in the left foot, which apparently
caused him no worry to speak of. There were many who were witness to his indefatigable energy and his predilection for strenuous physical exertion.

Toward the end of World War I, when Wood was making a tour of inspection at the front in France, a shell burst in his immediate vicinity, killing several of those standing nearby. Wood himself was quite severely wounded, as were two of his adjutants. Wood was the only one of the survivors to show no sign at all of what was called “shell shock.” He quickly recovered, and his energy remained as unflagging as ever.

In that same year, he underwent a thorough medical checkup before a medical commission in Washington. At one point he was required to hop around on one leg, and one of the examining surgeons remarked, “He maybe doesn’t hop quite the way I would hop—but God Almighty, he sure can hop!” The entire commission of expert physicians were unanimous in their conclusion: never had they seen such a splendid specimen of health and strength as General Wood.

### The Intrigues Around the Post-Wilson Presidency

In the election campaign for the president to succeed Woodrow Wilson in 1920, Wood, the personification of competence, became the Republican favorite. Harry Daugherty, a rather odd gentleman and lawyer, who liked to busy himself in what came to be known as “the smoke-filled room of American politics” was, however, to cause a totally unexpected outcome of the presidential campaign. For years he had been working away on the quiet to bring to the presidency a man who would serve his own interests: Warren Gamaliel Harding, editor in chief of a small country newspaper. Harding was willing to give lunchtime speeches, and the Republican Party often made use of him as a representative figure, but he had no ambition whatsoever of making a big-time political career. Daugherty, however, got him voted into the Senate and when at the nominating convention in Chicago in August, 1920, none of the ballots gave either Leonard Wood or his Republican competitor a sufficient majority, Senator Harding was launched as a third man for nomination, and subsequently was elected as president.

### General Wood in the Period 1920–1927

When he had been eliminated from the presidential election campaign, Wood was appointed Governor of the Philippines. While he was there—in the very next year—he began to suffer sporadic seizures, with spasms in the left foot. Wood paid little attention to these warning signs, pursuing his duties at the same fast tempo as always. By 1923, the spasticity in the left leg had increased, and now partial paralysis of the arm set in too. General Wood, however, still took part in shooting competitions, with a surer aim than most of his fellow competitors, even with his left arm!

In April, 1927, Wood was involved in a car accident. He was thrown out of the car, suffering a severe trauma to the right side of the head. Even before this accident, he had had a fairly pronounced hemiparesis, although this had not prevented him from conscientiously carrying out all his duties as governor. He now took the accident as a justification for terminating his governorship and returning to the United States, where he submitted an official report to President Coolidge. Only after this did he seek help from a specialist for his sickness. He was immediately admitted to the Peter Bent Brigham Hospital where Cushing had been senior physician since 1912.

When he came under Cushing’s care on August 4, 1927, Wood had a severe spastic hemiparesis on the left side, with contractures also in the arm, and a pronounced central facial paresis. With considerable difficulty he was able to get up from a chair, stand, and take a few stumbling steps with someone to support him. He also had a complete homonymous hemianopsia and otherwise such severely reduced vision that he was unable to read ordinary printed text.
General Wood's Last Operation

Harvey Cushing, who was now at the height of his career, had just returned from Britain, where in the course of a single month he had been awarded no less than seven distinctions from different medical societies. Deeply concerned at Wood's condition, he decided to operate on the tumor recurrence as soon as possible.

The operation, which was performed only 2 days later, on August 6, 1927, revealed a very large tumor. Cushing, who had started surgery in the morning, suggested after many hours that the completion of the tumor removal should be postponed. However, Wood begged to have it over with. From time to time, Wood talked to Cushing, even cracking a joke and occasionally saying he was doing well and hoped others were the same! There was loss of blood and twice blood was transfused from medical students. Finally, Cushing was able to complete the extirpation without any major complications during the long operation. Nonetheless, Wood died only a few hours after the operation was concluded, of an unexpected hemorrhage which broke through into the ventricular system.

No tragedy caused Cushing more distress than the death of General Wood. He could not bring himself to operate again for several weeks. He slept wretchedly, and told of how he lay awake every night for a week after the operation, going over and over in his mind every step and reproaching himself for not having waited longer after his return from Europe before operating. Cushing, in disappointment, notes: "On my return we were not yet in full swing. Nor were my surgical reflexes and judgment at their best. I've never lost a patient after operation that so upset me. It was so near to success. He was a great man."

And this is the reflection of another great man, after operating on one who was a close friend and a famous public figure, who had almost been elected President of the United States.

Acknowledgments

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References


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