Note from History:
Impact on World History of the Misdiagnosis of a Cancer

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In 1887, Germany was a unified country under the 89-yr-old Emperor William. Otto Bismark had been the Chancellor of Germany since the time of the Franco-Prussian War, which ended in 1871 with the defeat of France. Bismark was a militant conservative. He was opposed to foreigners, social reforms, religious freedom, and Jews. He enjoyed the support of the majority party, the conservatives. Most university professors, including Professor Ernst Bergmann—the renowned head and neck surgeon—belonged to the conservative party [1].

The liberal minority party favored social reform, democracy, and good relationships with England and France; it opposed religious and ethnic discrimination. Members of the liberal party mostly came from the working class and included many people who had fought in the failed 1848 revolution. Professor Rudolph Virchow, a former revolutionary and famous pathologist, was an elected representative of the liberal party [2]. The liberals waited for the 55-yr-old Crown Prince, Frederick—the elder son of Emperor William—to become Emperor when his ailing father died.

Crown Prince Frederick’s wife was the daughter of Queen Victoria of England. Frederick’s marriage entailed a comparatively lengthy stay in England and, moreover, gave him access to the highest levels of English political life. He grew to admire the English parliamentary government and he wanted to introduce a constitution in Germany similar to the British and American constitutions. Frederick sought peace with France and other countries. He disliked Bismark and was concerned about his younger brother, Prince William, over whom the Chancellor was exerting increasing influence [1].

Against this political background, in March 1887 Crown Prince Frederick had a laryngoscopic examination because of progressive hoarseness. On examination, a 4 mm polypoid lesion was seen on the edge of his left vocal cord. The lesion was cauterized and the growth vanished. Two months later, the lesion recurred and Professor Bergmann was called into consultation. Bergmann concluded that the lesion was cancer of the larynx. He planned to remove the tumor by laryngectomy but the advisability of the drastic operation was questioned by the Crown Prince’s wife. It was decided to secure the opinion of an eminent laryngologist, Professor Morell Mackenzie of London [3].

Mackenzie soon arrived in Berlin and on 20 May 1887, upon examination of Frederick the physician found a growth about the size of a split pea attached to the left vocal cord. He obtained two pieces from the tumor with laryngeal forceps and sent the specimens to Professor Virchow for pathological examination. Virchow reported that he did not see anything cancerous. Three months later, while Crown Prince Frederick was on an official visit to England, Mackenzie removed the remaining growth with laryngeal forceps and sent the specimen to Virchow, who diagnosed a warty growth without cancerous transformation [4].

In November 1878, the Crown Prince appeared in good health and went to San Remo, Italy, for a vacation. He contracted a cold and developed a slight enlargement of the left submaxillary gland. Mackenzie was urgently summoned from London to San Remo. He found that the larynx had a distinctly malignant look and informed Frederick...
and his wife accordingly. Mackenzie advised immediate laryngectomy but Frederick declined to have his larynx excised [4].

In January 1888, the Crown Prince expectorated a piece of tissue, which was sent to Professor Virchow for examination. Virchow still could find no microscopic evidence of cancer. In February, Mackenzie performed a tracheotomy and fitted the patient with a tracheotomy tube [4].

On 9 March 1888, Emperor William died and the Crown Prince returned to Berlin from San Remo to be inaugurated as Emperor Frederick III. In his first message as Emperor, Frederick III assured his subjects that his main goals were peace and prosperity for Germany. He declared religious tolerance, impartial justice, and equality for all German citizens.

Due to the seriousness of the new Emperor’s condition, with complete laryngeal obstruction, purulent tracheal necrosis, and enlarged neck nodes, Mackenzie remained in Germany until his royal patient died on 15 June 1888, after a reign of 99 days [3,4]. Postmortem examination performed by Virchow showed that the larynx was destroyed by ulcerated squamous carcinoma with metastases to neck nodes.

Taken all together, it would have served the militant conservatives’ interest for the larynx of the Crown Prince to have been excised as recommended by Professor Bergmann. Had this happened, there is little doubt that the knowledge that the Crown Prince had cancer of the throat and the prospect of his inability to speak would have kept him from becoming Emperor. Instead, the Emperor would have been William, Frederick’s brother, whom Bismark had tutored to be a conservative.

To the liberals, who looked forward hopefully to Frederick’s becoming Emperor, the diagnosis of cancer and the laryngectomy would have dashed the prospects for political and social reforms in Germany. Professor Mackenzie greatly admired Frederick for his liberal political views. Mackenzie was in almost constant attendance upon his royal patient for about thirteen months [1]. One cannot help but wonder whether Mackenzie, because of his personal devotion to the Crown Prince, showed defective medical judgment by not excising the laryngeal lesion at an early phase of its growth.

As for Virchow, it is remarkable that on three occasions he rendered a benign diagnosis. It may be argued that the tissue samples he examined were non-representative of the true nature of the laryngeal growth. It is possibile that Virchow failed to recognize a non-invasive, superficial squamous cell carcinoma because of his flawed, archaic view that squamous carcinoma originates from deep mesenchymal cells and not from the surface epithelium. However, it should also be remembered that Virchow was an old revolutionary, dating back to 1848, and that he was an elected deputy of the liberal party [2]. Realistically, one cannot ignore the possibilities that Virchow’s eyes were blinded by his pathologic views and that he was influenced by his political affiliation with the liberals.

Close examination of the character of the Crown Prince who became Emperor of Germany for 99 days gives a hint of what he might have achieved had he enjoyed robust health. If Frederick had lived, he would probably have established a liberal government in Germany and might have fostered lasting peace in Europe. Because of his admiration for the British political system and his intention to promote friendship with France, there would have been no First World War [1]. It is not unrealistic to envision that Germany would have had no grounds to start the Second World War.

In conclusion, the lesson to be learned from this history is that physicians should adhere to certain time-honored principles: first, do not establish close personal relationships with patients, and second, do not permit political factors to influence patient care.

References