Hitler's parkinsonism

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Of the multitude of medical and psychiatric conditions ascribed to Hitler both in his lifetime and since his suicide in April 1945, few are more substantiated than parkinsonism. While the timeline of the development of this condition, as well as its etiology, are debated, there is clear evidence for classic manifestations of the disease, most prominently a resting tremor but also stooped posture, bradykinesia, micrographia, and masked facial expressions, with progression steadily seen over his final years. Though ultimately speculation, some have suggested that Hitler suffered from progressive cognitive and mood disturbances, possibly due to parkinsonism, that affected the course of events in the war. Here, the authors discuss Hitler's parkinsonism in the context of the Third Reich and its eventual destruction, maintaining that ultimately his disease had little effect on the end result.

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WITH no shortage of unresolved controversies relating to his life and career, Adolf Hitler remains an intriguing figure and his life the subject of much debate. Unsurprisingly, many have gone to great lengths to try to understand the Führer, who has done more than any single person to shape the Western world of the present day. For example, psychoanalysts have attempted reconstructions of the adult mind of Hitler, placing his ideas—from fervent anti-Semitism and his views on homosexuality to his thirst for war—in the context of childhood experiences. These renderings have ranged from compelling to wildly speculative; in general, the lack of details and the unreliable reports on which many such interpretations have rested would seem to lessen the merits of their conclusions. Hitler's medical history has been extensively scrutinized with similar frustrations arising from the incomplete body of evidence available. Unfortunately, the great majority of questions pertaining to his mental and physical state are unanswerable scientifically, and opinions will continue to form the basis of our understanding.

Regarding his medical history, we do know that Hitler had an uneventful childhood, despite the fact that he was

one of 2 surviving children out of 6. He fell victim to an attack of mustard gas on October 14, 1918, while serving as a runner for Germany during World War I.²² He was briefly treated at the reserve hospital in Pasewalk, where he received care in the department of neurology and psychiatry.¹⁹ Here, he claimed to have experienced a period of blindness,¹⁰ though this is likely an exaggeration. His early life is otherwise without medical significance.

During his time as Führer, Hitler experienced frequent constipation and intestinal spasms that suggest the modern diagnosis of irritable bowel syndrome. He had coronary artery disease and/or hypertensive heart disease and may have suffered a small myocardial infarction in July 1941.¹⁹ He was afflicted by photosensitivity, tinnitus, headaches, and insomnia.²¹ Regarding the latter, he tended to have some degree of sleep inversion as well, falling asleep well after midnight and sleeping until mid- to late morning. In late September 1944 he became quite ill with cholestasis; very little workup was performed (Hitler was adamantly opposed to diagnostic procedures, around the abdomen in particular), and he recovered after several weeks.²¹

Numerous attempts have been made to attribute various aspects of Hitler's mindset and medical problems to phar-

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maceutical agents, notably 1) methamphetamine in the form of Pervitin, which may or may not have been present in Vitamultin, one of his physician's (Theodor Morell) proprietary drugs containing vitamins and other compounds; 2) narcotics (oxycodone) in the form of Eukodal, injected for intestinal spasms; 3) cocaine, topically applied to the nasal mucosa for sinusitis; and 4) strychnine, found in the antispasmodic pills which Hitler took copiously.^{19,21} These were among the dozens of drugs used to treat Hitler at some point in his final years, the bulk of which were prescribed by Morell.^{19,21} While the detriments of polypharmacy in general are worth acknowledgment, including the risks of side effects and drug interactions, it is by no means clear that Hitler experienced physiological dependence on or either acute or chronic toxicities from any of these drugs.^{19,21}

Evidence for Parkinsonism

Although Morell only acknowledged the diagnosis several weeks before Hitler's death,²¹ there is a good deal of evidence that Hitler had been suffering for years from parkinsonism. The most thorough analysis was that of Ellen Gibbels. She extensively reviewed newsreels from the time and determined that Hitler first showed hypomotility in his left arm in 1941, progressing later to his left leg and right arm; a gait disturbance was apparent in 1943 and a tremor in 1944.^{7,21} While Hitler's coarse resting tremor was not evidenced in film until 1944 due to the censoring efforts, it was reported in 1942.^{7,21} His left hand was the most prominently affected part of his body (<https://www.youtube.com/watch?v=0w3nsAaOpq4>, http://www.ushmm.org/online/film/display/detail.php?file_num=5389), though his left leg and head were also affected to a lesser degree.²² Images and film from 1941 to 1945 commonly show Hitler either with his left hand either in his pocket or holding something, or with his right hand claspings his left to suppress the tremor (Fig. 1). These signs were progressive, though for several weeks after the assassination attempt on July 20, 1944 (a bomb explosion carried out by Claus Schenk Graf von Stauffenberg of the German resistance), in which Hitler suffered minor injuries including bilateral rupture of tympanic membranes, Hitler's tremor improved. Morell used this fact to explain the tremor away as being psychogenic, but the reason for the transient improvement remains a mystery.

In addition to tremor, Hitler suffered from bradykinesia, rigidity, stooped posture, and a mild shuffling gait.^{6,7,21} He also developed micrographia (Fig. 2).¹⁸ He may have also had masked facial expressions and affected speech patterns,²² though these are less documented. Although Hitler experienced depressive symptoms in the closing months of his life, this is not altogether surprising given the course of the war, and thus it is difficult to say whether he had a parkinsonian depression. Regardless, by the time of his death, Hitler was mildly disabled by the disease (Hoehn and Yahr Stage 1.5 to 2).^{7-9,11,13}

Regarding the etiology of Hitler's parkinsonism, the differential diagnosis is most reasonably limited to primary Parkinson disease and postencephalitic parkinsonism. Existing documents reveal no evidence of an episode of encephalitis lethargica, though some have suspected that

FIG. 1. Hitler standing with Mussolini sometime between 1941 and 1943, his left hand clasped by his right. United States Holocaust Memorial Museum, courtesy of Muzej Revolucije and Narodnosti Jugoslavije, in public domain.

Hitler fell victim while hospitalized in 1918 after the mustard gas attack.^{16,22} Due to the lack of records, this cannot be excluded, though there seems little reason to suggest that it occurred. Making matters difficult, the wastebasket diagnostic entity encephalitis lethargica has a number of uncertainties associated with it, including its clinical presentation, cause, and sequelae.^{1,23,24} For example, postencephalitic parkinsonism without encephalitis was not infrequently reported in the 1930s and 1940s.^{5,24}

Addressing the likelihood of the possible etiologies epidemiologically, one diagnosis was not clearly more common than another in Hitler's time. In a study of more than 800 patients with parkinsonism performed at Columbia from 1949 to 1964, idiopathic parkinsonism accounted for 84% of cases, while postencephalitic parkinsonism accounted for 12% of cases.¹¹ The proportion of cases from encephalitis lethargica would have been considerably higher in the early 1940s however, given the epidemic in the late 1910s and the 1920s, and according to one report, it may have accounted for half of all cases during that period.³

While both diagnoses were relatively common, the ages of the populations affected differed considerably. In the Columbia study, the mean age at onset was 55 ± 11 years for idiopathic Parkinson disease and 28 ± 9 years for

FIG. 2. Hitler's signatures show development of micrographia between 1919 and 1945. The lower document is from his will. Reprinted from *Parkinsonism Relat Disord*, Vol. 2, No. 2, Lieberman A, "Adolf Hitler had post-encephalitic Parkinsonism," pp 95–103, Copyright 1996, with permission from Elsevier.

postencephalitic parkinsonism.¹¹ Hitler's age at the time of the gas attack was 29 years; he was 53 years old when he showed obvious manifestations of the disease in 1941.⁷ From this alone, his age would suggest primary Parkinson disease. In a review of film footage, Lieberman, a proponent of the theory that Hitler had postencephalitic parkinsonism, discerned a left-sided bradykinesia much earlier and determined the beginnings of Hitler's parkinsonism to be 1933, when Hitler was 44 years old.¹⁶ While if true this finding would potentially serve to make an encephalitic etiology more plausible, the value of such an interpretation is unclear, for it is unlikely that either Hitler or anyone around him noticed this subtle finding.

If Hitler suffered from postencephalitic parkinsonism, a significant latency period between the encephalitic illness and the onset of parkinsonism would be implied (23 years based on Gibbels' timing of parkinsonism development, assuming that encephalitis lethargica occurred in 1918). Referring to a German study from 1937, Duvoisin and Yahr noted, "Occasional cases were noted in which Parkinsonism developed 15 or more years after apparent recovery from encephalitis lethargica, however such long latencies were exceptional." They cited a handful of other studies with similar conclusions.⁵ In their study, conducted on postencephalitic parkinsonism patients between 1961 and 1964 at Columbia, Duvoisin and Yahr found that only 4 of 27 (15%) definite cases began after a 15-year or longer latency period.⁵ This, combined with the fact that we have no reason to think that Hitler experienced encephalitis in the first place, makes one less enthusiastic about the likelihood of an encephalitic etiology.

Distinguishing the two diagnoses clinically, postencephalitic parkinsonism, in addition to a history of encephalitis, has several key features that commonly manifest. Among them, oculogyric crises (in which the eyes are paralyzed in an upward gaze for some time) occur in as many as half of cases and are pathognomonic, establishing the diagnosis even in the absence of a history of encephalitis.⁵ Other signs include paralysis of convergence (nearly three-fourths of cases), bulbar palsy (nearly one-third of cases), and oculomotor palsy (nearly one-fourth of cases).⁵ In both diagnoses, tremor is the presenting symptom for most patients.¹¹

In Hitler's case, possible evidence for 2 oculogyric crises is presented by Stolk, though the instances appear some-

what far-fetched—in particular, there is no obvious indication that Hitler's eyes were fixed upward in either episode.²² Stolk also suggested that those who were close to Hitler knew of these crises; if true, it is certainly the case that they would make every attempt to conceal them. One might expect, however, that since the war's end we might have a better record of these episodes. While an intriguing idea is that Hitler's gastrointestinal complaints and insomnia (also with some circadian rhythm disruption) could signify sequelae from encephalitis lethargica,^{16,20,22} the overall lack of evidence suggests Parkinson disease. However, it is worth mention that in the 1930s and 1940s, there existed considerable difficulty in distinguishing the two entities, and in one series 40% of patients were grouped in an indeterminate category, presenting with symptoms beyond that of primary Parkinson disease but without a definitive history of encephalitis lethargica.³ Thus, even if Hitler had presented to a neurologist at the time, there is a fair chance that we still would not know the etiology of his parkinsonism beyond doubt.

Theories Regarding Hitler's Disease and War Outcome

Given the timing of his illness and its progressive nature, it is interesting to consider if and how parkinsonism affected Hitler's actions over the course of World War II. Beginning in 1940, Hitler significantly curtailed public appearances, making only 7 speeches that year, and these only for significant military occasions.² His avoidance of public visibility became even more apparent with time—from 1943 onward, he delivered only 2 public speeches, frequently delegating others to speak at events in his place,² and, after the assassination attempt in July 1944, he was all but eliminated from public view.^{21,22} This may on the surface suggest that Hitler's parkinsonism was separating him from the German people against his will. If this were the case, however, we might expect Hitler to have given many public radio broadcasts. Instead, over his last several years he gave only 5, which makes it more likely that he was simply preoccupied by the war effort.² In support of this idea, Hitler assured Joseph Goebbels, Reich Minister of Propaganda, that he would return to face the German public after a military success. In this, it is evident that his fear of a negative public opinion in the wake of mounting political failures was an important motivation for his absence. This was unfortunate for Hitler, because his ability to command an audience—his *fingerspitzengefühl* (literally "finger tips feeling"), or intuition—formed the foundation of his political success, and his decreased visibility undoubtedly depressed German resolve, particularly as military defeats mounted.¹⁶

It has been further suggested that Hitler's physical degeneration may have accelerated the implementation of his ultimate plans. It is well established that throughout his life, Hitler was preoccupied with his own mortality.¹⁴ After his 50th birthday (in 1939), Hitler remarked that the milestone reminded him of how old he truly was, and what little time remained to fulfill his ambitions, acknowledging, "In a few years I will be physically, perhaps mentally, too, no longer up to it."¹⁴ Authors have frequently cited

Hitler's *Zeitangst*, a fear of not having enough time to accomplish his goals, as a key influence on his actions.^{4,21} Lieberman posited, "the self recognition of even minimal physical disability may have caused him to go to war more quickly than was commensurate with Germany's military and industrial capacity at the time."¹⁷ Namely, this may have hastened his decision to invade the Soviet Union in June of 1941 while engaged in a war with England.^{4,16,17} However, others remain skeptical as to whether Hitler even recognized he had a neurodegenerative disease;¹² at the least, it seems quite unlikely that he was aware of it in 1941.

The story near the war's end was remarkably different. After a series of military defeats including the Battle of the Bulge on the Western Front and a steady advance by the Soviets on the Eastern Front, Hitler met with regional Nazi Party leaders in February 1945. In the 6 months of isolation up to this time, Hitler appeared to have aged several decades, bearing little resemblance to his former self. In preparation for the meeting, Goebbels had warned the officials ahead of time not to comment on Hitler's appearance.¹⁴ Nevertheless, Hitler's physical deterioration could not but cast doubt upon his leadership.²² He spoke to the Nazi Party's "glorious" past, but could do little to revive confidence in his Party officials.¹⁴ Despite this, with a few exceptions, his officers continued to follow their Führer's orders until the end.¹⁹ He alone authorized military and domestic decisions, devoid of input from a cabinet or consultation with other officials.¹⁴

Many arguments attribute Hitler's military failures in the last few years of World War II variously to cognitive and psychiatric disorders, including an inflexibility and lack of resilience stemming from parkinsonism.^{4,15,22} Lieberman perceived an indecisiveness in Hitler evident both during the invasion of France, in 1940, and the invasion of the Soviet Union, in 1941.¹⁵ According to Lieberman, as German General Heinz Guderian's forces infiltrated France in May 1940, Hitler repeatedly delayed the advance against the advice of his generals, ultimately enabling the English to retreat.¹⁵ Regarding the Eastern Front, Lieberman argued that Hitler's parkinsonism-induced cognitive disorder was such that he "could not adapt to the novel, changing conditions of conducting a war on a landscape four times larger than France."¹⁵ The majority of authors have concluded, however, that Hitler experienced no cognitive disorder through the course of the war, and others who perceived a mental decline saw this only in Hitler's final days, after the war had been lost.^{14,19,21} For example, Kershaw attributed Hitler's indecisiveness and other particular traits demonstrated during the war not to any mental incapacity brought about by his parkinsonism, but to "inbuilt features of his character."¹⁴ Along those lines, it seems unreasonable to conclude that the Führer's parkinsonism was responsible for each of Germany's failures in the most intricately complex war in history. Rather more likely is that Hitler, a charismatic leader and capable military strategist with absurd and ultimately unattainable ambitions, faced inevitable defeat, and that any mistakes he made along the way were simply manifestations of his humanity.

In his final months, it may be that Hitler saw his own

decline mirroring that of the Third Reich, given his increasing neurological symptoms and fatigability. And indeed, for a man with such megalomania, losing his health was tantamount to military defeat. As he lost control of the war, and it became evident that his political and social aims would be unrealized, he simultaneously seemed to lose control over his disease. It is possible that this was a factor in his suicide, as it is difficult for one to imagine that Hitler could have allowed himself to be subjugated to the eyes of the world in view of his demise.

Conclusions

It is challenging to formulate an objective explanation of the relationship between Hitler's medical condition and his actions during World War II. While his parkinsonism is undisputed, it is imprudent to superimpose Hitler's symptoms on numerous complex events, political interests, and an enormous cast of characters. Speculation is interesting, but taken too far risks engendering a revisionist history.

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