

Looking Back in History

Hans Conrad Julius Reiter (1881–1969): A forbidden eponym “Reiter’s syndrome” not to be forgotten

Mohnish Sekar¹

¹Department of Dermatology, Karpaga Vinayaga Institute of Medical Sciences and Research Centre, Maduranthakam, Tamil Nadu, India.



***Corresponding author:**
Mohnish Sekar,
Department of Dermatology,
Karpaga Vinayaga Institute of
Medical Sciences and Research
Centre, Maduranthakam,
Tamil Nadu, India.
mohnishsekar@gmail.com

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INTRODUCTION

Dr. Hans Conrad Reiter was a prominent bacteriologist with a medical doctorate and a profound interest in vaccination and community hygiene. His prolific creative endeavors in treating wounded German soldiers during the First World War led him to identify the pathogenesis of a triad consisting of conjunctivitis, arthritis, and urethritis, known as “Reiter’s syndrome,” which is now referred to as “Reactive Arthritis” due to ongoing controversies surrounding the term and considered a prominent intellectual in Nazi political matters. He has occupied several influential positions in German universities. Numerous research publications referenced his scientific contributions to the isolation of *Treponema pallidum*. The experiments he conducted on the captives were sadistic, narcissistic, and inhumane. His indoctrination in Nazism and inclined affinity toward Adolf Hitler led him to embrace unethical and unreasonable practices toward the Semitic race, whom he perceived as distinct individuals. This historical review examines his life, contributions to modern medicine, achievements, crimes, and conflicts, illustrating the virtuous road to wielding power through knowledge.

BACKGROUND

Hans Reiter began life on 26 February 1881 in Leipzig.^[1] He is a renowned German bacteriologist who discovered the spirochete *Leptospira icterohemorrhagica*^[2] and developed techniques for culturing *T. pallidum*, which led to Reiter’s protein complement fixation test and conjugated the trifecta of conjunctivitis, urethritis, and arthritis into a single domain known as “Reiter’s syndrome.”^[2] His methodologies were implemented and disseminated in over two hundred scientific publications. His extensive expertise in “Bio Warfare” enabled him to occupy various commendable positions within the Nazi government, culminating in his role as President of the German Office of Public Health.^[2] His fervent, egregious, clandestine human experiments represent a grim episode in the annals of medical science, contravening the Hippocratic oath. Nevertheless, he is regarded as a highly recognized, esteemed, and famous physician among his German peers, as he was never prosecuted for his reprehensible experiments.^[3]

REVIEW

Early life, education, and work experience

Hans Conrad Julius Reiter was the son of an industrialist and business magnate. After completing coursework at Leipzig, Breslau, and Tuebingen colleges, he graduated from medical

school in 1906.^[2] He did an observership in bacteriology for eight months at the Pasteur Institute in Paris and the Pharmacological Centre in Berlin.^[1,2] He provided consulting services for the University of Berlin’s tuberculosis center in 1908 and 1909. After that, until 1911, he worked at St. Mary’s Hospital in London. Further professional experiences are listed in Table 1.^[2]

Mentorship

Reiter was able to take advantage of the opportunity to work with and gain knowledge from some of the most brilliant brains in the area of medicine, which enabled him to become an insightful figure in the treatment of infectious diseases. He journeyed to numerous sites across Europe and pursued studies in varied settings to attain competence in bacteriology. Having acquired such a vast amount of information, he put his newfound knowledge to use by working on his skills [Table 1].^[1,2,4]

Breakthrough in the battlefield

In 1914, he encountered multiple instances of Weil’s disease while serving on the Western Front and subsequently identified the previously unrecognized treponemal etiological agent as *L. icterohemorrhagica*. In 1915, Reiter and Hübener published extensive research that documented the spirochete. Inada, Ito, and Japan independently identified the same organism in the same month. Reiter spirochaeta has been identified, classified, and characterized as a specific antigen for a non-pathogenic variant of *T. pallidum*, known as the “Reiter Strain.” This development led to the establishment of the protein complement fixation test for syphilis.^[2] Reiter, possessing adequate proficiency and expertise in infectious disease interventions, managed a unique case in 1916 while stationed on the Balkan front during the First World War with

the first Hungarian regiment. The patient was a Prussian officer diagnosed with a pyretic illness characterized by arthritis, conjunctivitis, urethritis, diarrhea, and isolated spirochete *forani*, leading to the famous “Reiter’s syndrome.”^[1,2,4,5]

Scientific contributions

He was highly regarded for elucidating the attributes of digitalis toxicity, various techniques for identifying syphilis, the psychological challenges encountered by orphans and children, and for composing an extensively cited treatise on the advancement of therapeutic vaccinations. He possessed a diverse array of specializations. He immersed himself in the study of eugenics, meticulously structuring his thesis into four distinct subcategories, each refined incrementally over the years in accordance with Mendel’s principles of dominant and recessive inheritance. These categories encompassed the inherited transmission of normal physical attributes, the inherited transmission of abnormal physical attributes, the inherited transmission of balanced mental attributes, and the inherited transmission of imbalanced mental attributes. In light of this evidence, he will propose marriage counseling, castration, and sterilization for the targeted demographic.^[1] 1942 saw the first usage of the phrase “Reiter’s syndrome” resulting in the word’s later popularity.^[6]

Political beliefs and portfolios

He became a member of the National Socialist German Workers’ Party (NSDAP) in 1930. In 1932, he was appointed as the Nazi Deputy in the House of Representatives for the State of Mecklenburg. During that specific year, he was one of the distinguished German professors who endorsed a declaration pledging loyalty to Adolf Hitler (Führer). His steadfast commitment to National Socialism led to his

Table 1: Milestones in the life of Hans Conrad Julius Reiter.

Period	Position	Workplace
1910–1911	Studied bacteriology under Sir Almroth Wright.	St. Mary’s Hospital London.
1912–1914	Instructor and Assistant	Königsberg’s Institute for Hygiene.
1914 (Before Enlisting in the army)	Deputy Chief of the Department.	Berlin Academy of Hygiene.
1915	War physician along with Professor Huebner.	Battlefield (World War I).
1919–1923	Associate Professor and Chair of the Department	Rostock’s Hygienic College.
1923–1925	Deputy Chief of the Department and worked with Professor Von Wasserman.	Kaiser Wilhelm Foundation for Experimental Therapy, Berlin-Dahlem.
1925–1933	Director	Mecklenburg State Health Department.
1933	President	German Health Office.
1933	German Ambassador	International Health Association in Paris.
1934	Honorary Professor	University of Berlin.
1935–1936	Member of the Emperor Leopold Academy of Science	Halle
-	Also worked with Professor Dr Roux (Pupil of Pasteur), Dr. Metschnikoff, and Dr. Lockemann.	Paris and Berlin.

advancement to Ministerial Director. On July 26, 1933, the Fuehrer extended an invitation for him to take on the leadership of the Reich Health Office temporarily. He took the oath of office as president on October 1, 1933. As President of the Reich Health Office, Reiter held the highest authority in Germany regarding all significant health-related issues. He offered the Nazi party's Reichsleitung proficient public health guidance. Hans's extensive portfolio encompasses the Ministry of Labour, Social Security, Public Health Services, and the Chief of the Institute of Robert Koch, along with research agencies and the Reich Institute of Water and Air.^[1]

Regulating pharmaceuticals and enforcing standards for unadulterated food constituted two of its responsibilities. It communicated the qualifications of medical professionals to individuals pursuing public service.^[1]

His antisemitic disposition led him to adhere to the prevailing notion that humanity is divided into various, hierarchically structured races, with the Nordic or Aryan race, to which the Germans belonged, seen as the most superior. As President of the Reich Health Office and a senior Nazi medical bureaucrat, he proclaimed his aim to "prevent the propagation of inferior lineages."^[7]

Illicit experiments on prisoners

Reiter conducted vaccination trials utilizing typhoid bacilli, resulting in the deaths of over 250 captives at Nazi concentration camps such as Buchenwald.^[4] Although he claimed not to be associated with any mass homicide units, evidence indicates his involvement in the euthanasia of cerebrally challenged, cognitively impaired involuntary inmates in the mental asylums of Dresden and Wuerttemberg. Their staunch conviction in ethnic cleansing and the eradication of mutants led him to participate in sterilization programs that affected 60,000 civilians and convicts during World War II. Nonetheless, the actual data are distressing. Medical practitioners were responsible for approximately two hundred thousand cases of involuntary sterilization and one hundred seventy thousand instances of euthanasia conducted under his supervision. The procedure of severing the ductus seminalis was conducted at accredited medical facilities, and the patient's paperwork was subsequently sent to the Reich Health Office for statistical evaluation, which was overseen by Reiter.^[1]

Printed works

He authored a book on disinfection entitled "Vaccination Therapy and Vaccine Diagnosis."^[1] In addition, he served as the author of German Gold: Healthy Life-Happy Work, a textbook on racial hygiene.^[8] Over 140 scientific articles were published in reputable journals and cited by more than 800 researchers.^[1,2]

Political honors

On his 60th birthday in 1941, he was named "SA-Sanitäts-Standartenführer" for his devotion to the Nazi government [Table 2]. In addition, he earned the "Dienstauszeichnung der NSDAP in Bronze" and belonged to the NSDAP's Munich "Braunes Haus" section, which was limited to elite Nazi party members.^[9]

Global accreditation

He symbolized Germany during the International Health Organization, the League for Nations arm that subsequently evolved into the World Health Organization.^[1] In 1961, he was honored to deliver the keynote lecture at the International Congress on Rheumatism in Rome.^[7,10] He received an honor as a fellow of the Royal Society of Medicine in London after the end of the Second World War and also the Robert Koch Medal and the Great Medal of Honour of the Red Cross [Table 2].^[4,10]

Disputation on the usage of his eponym

Three postulations have been put forward after a precise evaluation of documented evidence:

1. First and foremost, contemplating the theory of reactive arthritis's specific bacterial triggers (such as the presence of Chlamydia in the genitourinary tract and Shigella and Salmonella in the alimentary canal) and the more significant incidence in human leukocyte antigen (HLA)-B27 positive, the triad associated with this syndrome is overly restrictive.
2. Second, it is likely that the syndrome was identified by two French researchers: Noel Fiessinger and Edgar LeRoy reported on four patients suffering from conjunctivitis, urethritis, and arthritis in the Newsletter of the Medical Society of Paris in 1916. This story was published eight days before the Reiter article. Reiter misdiagnosed the illness as a spirochete infection contracted by a mosquito bite and failed to realize that the conjunctivitis and arthritis were related to the dysentery.
3. The third postulation is purely based on moral and ethical grounds. Hans Reiter conducted violent, inhumane experimental trials and killed hundreds of prisoners held in concentration camps, violating all the possible laws of humanity. Such a nefarious person should be devoid of such credibility.^[11,12]

HOW DID THE EPONYM BECOME FAMOUS?

The explanation is that while Fiessinger and Leroy stopped adding to the Library of Literature, Reiter [Figure 1] maintained his interest and published reports.^[10,13]

ETERNAL REST

At the age of 88, he departed this life with a clean sheet of

Year	Attainments
1941	Gained the title “SA - Standartenführer” for his devotion to the Nazi party.
1961	Keynote Speaker at the International Congress on Rheumatism.
Lifetime Honors	I. Represented Germany at the International Health Organization. II. Fellow of the Royal Society of Medicine in London. III. Robert Koch Medal IV. Great Medal of Honour of the Red Cross



Figure 1: Portrait of Hans Conrad Reiter. Image credit: Mike Cadogan. Life in the fast lane. This image is licensed under a creative commons attribution 4.0 international licence.

criminal records and as a decorated physician on November 25, 1969, in Kassel-Wilhelmshoehe, where he had lived after the end of World War.^[2]

CURRENT STATUS OF THE EPONYM

During their conference on October 25, 2003, editors of rheumatology journals decided to replace the term “Reiter’s syndrome” with “reactive arthritis” in all published works.^[14]

CONCLUSION

Reviewing Hans Conrad Reiter’s life history enables us to discern professional ethics from our personal, moral, ethnic, religious, and political convictions. Therefore, inventions, accomplishments, and accolades must be sought ethically, adhering to the standards of medical research conduct. Moreover, his existence will elevate our consciousness on the

necessity of approaching modern medicine with integrity and compassion for future generations. Such eponyms should not be used to honor the memory of people who were once very important but have fallen from grace because of changed morals.

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