

Human Experiments on Hepatitis During the Nuremberg Doctors' Trial

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1. Abstract

During the Nuremberg Doctors' Trial, physicians have been accused of hepatitis' experiments on concentration camp inmates in Sachsenhausen and Natzweiler. The Nuremberg trial's retranscription about hepatitis' experiments are an important source of knowledge. It explains the overall process of their action. Eugen Haagen and Ernst Gerhard Dresel denied that they committed hepatitis' experiments. Arnold Dohmen carried out hepatitis' transmission experiments in Sachsenhausen to Polish Jewish children, selected by himself at Auschwitz. The lawyer Robert Servatius undertake defendants' defence by developing his argumentation in six different axes: Hitler regime's responsibility, responsibilities' rejection on superiors, analogy between German and American experiments, the best way to redeem their crimes, the moral quality and the high reputation of German doctors and the absence of danger on hepatitis' experiments. Following the trial, the Nuremberg Code has been created. Seven decades later, it is worth recalling this black page of the history of hepatology.

2. Introduction

The Medical Case, U.S.A. vs. Karl Brandt, et al. (also known as the Nuremberg Medical Trial) started on the 9th of December 1946, 19 months after the world discovered the enormous crimes committed by the Nazis and the horror of the Shoah. This trial has been a model legal organization with 32 witnesses presented by the accusation, 53 by the Defense and the quotation of 1471 documents. Among 23 persons judged, 10 of them (Karl Brandt, Paul Rostock, Oskar

Schroeder, Karl Gebhardt, Rudolf Brandt, Joachim Mrugowsky, Helmut Poppendick, Wolfram Sievers, Gerhard Rose, and Hermann Becker-Freyseng) have been accused of participating of hepatitis' experiments on concentration camp inmates. in Sachsenhausen and Natzweiler. The Nuremberg trial's retranscription about hepatitis' experiments are an important source of knowledge. It explains the overall process of their creation, but also the intellectual development and creators' motivations of the personnel that created them [1,2]. The exceptional testimony of Saul Oren-Hornfeld, who was 14 years old at the time he endured hepatitis' experiments, permit us to understand victims' suffering [3]. Seven decades later, it is worth recalling that this black page of the history of hepatology.

3. Context of Studies

The occurrence of the hepatitis epidemic (« hepatitis epidemica » in German), which corresponds to an infection by the hepatitis A, has been a major focus for the military physicians during various conflicts of the nineteenth and twentieth centuries [4, 5]. During the Nuremberg medical Trial, a report from Professor Gerhard Rose, the head of the Department for Tropical Medicine at the Robert Koch Institute of Berlin [6] which permits an understanding of knowledge's level of German physicians. Gerhard Rose conducted a study of this condition during the Spanish Civil War on the hepatitis epidemic. He had established that this disease was contagious, favored by a poor sanitation conditions, but the transmission mechanisms are still unknown. He believes that childhood infection confers lifelong immu-

nity. During the Second World War, German military authorities have been faced with an important impact of hepatitis among troops in North Africa and Russia [7]. Kurt Gutzeit, professor of medicine at the University of Breslau and Army Medical Inspectorate, considers in 1950 that almost 5 to 6 million German soldiers had contracted hepatitis [8]. This situation represented a major concern for Ernst Robert Grawitz Reich, a physician-SS and police member, SS Lieutenant-General, General of the Waffen-SS and Managerial President of the German Red Cross, who wrote to Heinrich Himmler the 1st of June 1943. He informed Himmler about the disastrous impact of hepatitis on the German troops, in particular in Southern Russia: « This disease became very widespread in the past. Over a 6 weeks' period, the figure reached 60% of sufferers within the troops [9]. ». In this context, authorities encouraged the conduct of experiments in order to gain a deeper understanding of hepatitis by various research teams: Dr. Arnold Dohmen, Eugen Gildemeister's assistant at Robert Koch Institute of Berlin, Dr. Kurt Gutzeit, Professor of Medicine at the University of Breslau, Dr. Eugen, Professor at the University of Strasbourg in Strasbourg and Ernest Gerhard Dresel from Leipzig. Arnold Dohmen and Eugen Haagen have obtained the most promising results by successfully isolating « both the influenza virus of the disease » as witnessed Kurt Gutzeit during the trial [10]. These interesting experimental results encouraged the German authorities to conduct experiments on humans « Versuchspersonen ».

4. Experiments on Hepatitis

4.1. Arnold Dohmen's Experiments

The prosecution lawyers did not have all the information about Arnold Dohmen's experiments, owing to his absence from the trial, although his superior Kurt Gutzeit was present. The judicial inquiry provided a letter addressed to Dr., Lt. Gen. Waffen-SS, Reich Physician SS Ernst Grawitz au SS Reichsführer on 1st of June 1943. Heinrich Himmler asked the availability of the Staff physician Arnold Dohmen: « Eight prisoners condemned to death, of a young age if possible » [11], so that he can realize his experiments « in the prisoners' hospital of the KL (Konzentrationslager in German concentration camp) Sachsenhausen ». The potentially dangerous nature of these experiments is clearly spelled out in the letter « cases of death (Todesfalle) must be anticipated » [11]. This mail suggested that Grawitz was responsible for hepatitis' transmission experiments on deportees. On June 16, 1943, Himmler made the following reply to the Grawitz letter "I approve that 8 criminals condemned in Auschwitz (8 Jews of the Polish resistance movement condemned to death) should be used for these experiments." [12]. In our days, we know that various protagonists in experiments have discharged themselves to incriminate Grawitz, who killed himself in Babelsberg on April 24th 1945, and Himmler, who killed himself on May 23, 1945.

In the absence of legal documentation and testimonies, the exact role of Arnold Dohmen in hepatitis' experiments has not been raised. He

was instrumental in the decision of starting or not the experiments, because we know in our days, that he wrote a letter to Generalarzt Karl Brandt (personal physician of Hitler) on April 30, 1943. He explained what he wants to do during the experiments: inoculate to six humans sample, mainly obtained through animal experiments, by intranasal way, duodenal probe, subcutaneously or intravenously [13]. This project followed a series of experiments in which Dohmen transplanted liver fragments taken from people with an epidemic hepatitis on white mice and chicken embryos [14]. He wished to expend his research on hepatitis and undertake experiments on humans. Dohmen has been invited a first time by Karl Brandt, the Reich Commissioner for Health and Sanitation, at the headquarters of the Führer on May 20, 1943 and in a second time by Dr. Ernst Grawitz in Berlin on the 1st of June, 1943.

During those two interviews, Dohmen spoke about his research in Pr Eugen Gildemeister's laboratory. On June 23, 1943, for four days, Dohmen didn't waste his time, he went to Auschwitz's extermination camp in Poland [13, 15]. He selected 19 Jewish Prisoners from the Sosnowiec and Bedzin ghettos at the Auschwitz ramp, including a 14-year-old boy called Saul Oren-Hornfeld. He testified that Dohmen interrogated them if there was « the Gelbsucht, but we didn't understand which disease it was, he showed us the yellow star: jaundice. » [15]. On August 1943, eleven of them, aged between 9 and 19 years-old, have been transferred from Auschwitz to Sachsenhausen. For 7 weeks, they were kept in a small hospital before they were subjected to experiments that entailed injections to obtain samples [15]. The first results of Dohmen are unknown. He interrupted his experiments in Sachsenhausen due to bombing raids in November 1943 at Robert-Koch Institute of Berlin. Since January 1944, his laboratory has been transferred to the Department of Hygiene in Animal Feeding in Giessen University. On June 5, 1944 in Breslau, Siegfried Adolf Handloser organized a meeting dedicated to research progress on hepatitis in Kurt Gutzeit's service. On this occasion, they exerted pressure on Dohmen to collaborate with Eugen Haagen for hepatitis experiments. The last one wrote a letter to Oberstarzt Kalk to ask him:

« We must proceed as soon as possible with the experiments on human beings. These experiments of course should be carried out in Strassburg or in its vicinity. Could you, in your official position take the necessary steps to obtain the required experimental subjects? » [16]. It appears that Dohmen had been interrogated on the merits of human experiments such as the letter written by Gutzeit addressed to his collaborator Wilhelm Fahndrich on August 21, 1944. « I had once again tried - I don't know how many times - to wake Dohmen up from his lethargy in animal experiments, so that we finally get to a conclusion » [17]. On September 1944, we know that Dohmen overcame his concerns and he started experiments more virulent on two children, whose Saul Oren-Horenfeld. They included liver biopsies after injecting a « gelatinous fluid in intestines through duodenal probe » [18].

4.2. Eugen Haagen's Experiments

According to the testimony of Rudolf Emil Brandt, SS Obersturmbannführer and Himmler's personal secretary, on October 1946, orders were given to Eugen Haagen in order to proceed with experiments on infectious jaundice in Natzweiler. These experiments would cause many deaths on « human non-volunteers » [19]. On January 9, 1947, Haagen's French technical assistant, Edith Schmitt said that she can't swear that they carried out human experiments with the infectious jaundice [20]. On June 19, Eugen Haagen stated to the court that he successfully isolates the infectious jaundice but he never realized hepatitis experiments at Natzweiler. By contrast, he specified that he had the project to realized experiments on students from Strasbourg, Freiburg im Breisgau or Heidelberg [21]. But, Haagen said that this project could not be completed owing to upsurge in fighting at the end of the war.

4.3. Ernst Gerhard Dresel's Experiments

Ernst Dresel, who was the Director of the Hygienic Institute of the University of Leipzig, participated in a conference of Breslau dedicated to hepatitis on June 5, 1944. During Nuremberg trials, it was presented a letter from Joachim Mrugowski, Chief of the Institute of Hygiene, Waffen-SS written on January 29, 1945 to Ernst Grawitz requesting the authorization of undertaking experiments on 20 prisoners unaffected by the epidemic hepatitis at the experimental station of Typhus KL Buchenwald [22]. At the trial, no details have been found during the experimental process. During his interrogation, Mrugowski declared that he understood that the experiments didn't take place.

5. The Defense's Arguments

The defence counsel Robert Servatius developed his argumentation around six axes.

5.1. Hitler Regime's Responsibility

Karl Brand considered that it was impossible to put on trial those who participated in experiments in concentration camps if the Hitler regime is not taken into account, by implying that understanding or inability to communicate from people who have lived their whole lives in a democratic system. « If we don't consider the whole situation, what was the Germany situation at that time, we can't understand these experiments » [23]. He structured his argumentation to the fact that « This authoritarian leadership interfered with the personality and the personal feelings of the human being. The moment an individuality is absorbed into the concept of a collective body, every demand which is put to that individuality has to be absorbed into the concept of a collective system. Therefore, the demands of society are placed above every individual being as an entity, and this entity, the human being, is completely used in the interest of that society » [24]. Therefore, he considered that the responsibility of dangers of the medical experiments is due to the government and the physician isn't guilty because he's « only a pawn » [25] since « personal and professional feelings, like ethical obligations » are suppressed by

the system.

5.2. Responsibilities' Rejection on Superiors

According to the argumentation very close to others, the defense counsel blamed the dead superiors like Ernst Grawitz or Heinrich Himmler. Nuremberg trials' witnesses like Kurt Gutzeit gave their side of the story. They cleared their responsibility in this case as well as their collaborators. Kurt Gutzeit stated in his testimony « Dohmen told me from time to time about his work at Sachsenhausen, he did not artificially infect persons » and his action was only « camouflage » for mislead Grawitz [10].

5.3. Analogy Between German and American Experiments

Robert Servatius recalled that American physicians had the same thematic research than German physicians. He presented three articles pointing to experiments results on conscientious objector and American volunteers. The first article was from Mac Callum, published in 1944 in *Lancet* [26], the second was published in 1945 in *JAMA* [27] and the third was published in *The American Journal of the Medical Sciences* in 1945 [28]. The experimental design of F.O. Mac Callum's study [26] was to administer feces, urine, serum, duodenal juice or saline solutions of nasopharyngeal swab from pre-icteric and icteric ill patients to volunteers with a rheumatoid arthritis (24 hours after the jaundice appears), taken orally, through blood or intratracheal instillation. J.R. Neefe's study [28] aims to compare two types of hepatitis: infectious hepatitis (now known as "hepatitis A infection") and "homologous serum hepatitis" (now known as "hepatitis B infection"). 27 volunteers were administered specimens of human serum, urine, or feces by mouth, injection, and nasal instillation. Fecal samples were mixed with milk or chocolate milk to disguise the taste. This survey highlights an absence of immunity cross between the two types of hepatitis. She gave an extend period for the incubation (60 days) and the absence of transmission by orally of the seric hepatitis. By contrast, the infectious hepatitis has a short incubation period (37 days) and was transmitted orally. In Neefe's study [27], specimens of distilled water were contaminated with the infectious hepatitis virus by adding a similar quantity (varying from 40 to 50 parts of feces per million parts of water in the different experiments) of feces suspension known to contain that virus to each. Approximately 2 ml of a suspension *Escherichia coli* was also added to each specimen for the purpose, facilitating a study of the effect of treatment procedures on the bacterial counts. English and American teams have realized other human inoculation experiments on hepatitis in 1940s with soldiers, volunteers and conscientious objectors [29, 30-33].

5.4. The Best Way to Redeem Their Crimes

Prisoners' participation to experiments was the opportunity for the « Versuchspersonen » to redeem their crimes [34] which refers to « compulsory expiation » and remind that « eight members of a Polish resistance movement who had been condemned to death were chosen » [35]. In the hepatitis experiments' case, the « Versuchspersonen » that have been chosen were Jewish and Polish children. Arnold

Dohmen went in Auschwitz on June 24, 1943, and realized personally « Versuchspersonen »'s selection. Dohmen was probably a witness of yelling and shouting during the selection for a convoy of Jewish from Sosnowiec and Bedzin ghettos. He never delivered his testimony and it's impossible to know if this doctor is a Nazi Party member and not a SS member. We don't even know if he was aware of the gas chambers. Leo Alexander appointed a chief medical advisor to the United States, Chief of Counsel for the War Crimes Telford Taylor, who helped to prepare the prosecution's case against the defendants in Nuremberg. He denounced the fallacious nature of the argumentation of German physicians' lawyers. They support that the experiments on death row prisoners was the opportunity to give them a chance to survive. Before, no Jewish, Russian or Polish deportees who were the subject of an experiment has been a subject of a pardon. Most importantly, he recalled that no deportee gave his written agreement and their participation for experiments was obtained by force: « Who's volunteered to be killed? » [36]. Leo Alexander recalled that deportees did not have a choice between « death penalty or medical experiment », it was only « death penalty and medical experiment ».

5.5. The Moral Quality and The High Reputation of German Doctors

According to the Defense counsel, German physicians who have realized experiments were only interest to furthering their understanding on hepatitis and improving soldiers' lives. The moral quality and the high reputation of German doctors have been identified to make that we'll forget their dreadful actions. In his testimony, Kurt Gutzeit described Arnold Dohmen « as a decent, modest and conscientious of his responsibility, of a caring medical attitude and a scientist who was careful, critical and reserved in his judgement » [10]. The lawyer Robert Servatius increased the awareness of the audience, asking them to put themselves in the shoes of a physician confronted by an epidemic « You have a drug that can treated it. However, you have to try it on somebody and the chief of the town, as the mayor, turns to you and tells you: « There's a death row criminal, do the experiments on this man and save us. Are you refuse it? » [37].

5.6. The Absence of Danger on Hepatitis' Experiments

The non-dangerous nature of hepatitis experiments was an argument highlighted by Robert Servatius who underlined « the lack of danger and painlessness of the sickness » [35] but recalled that « The fact that anyone with jaundice can be cared for and well treated in hospital for weeks on end, in order to avoid hard work, can form sufficient motive for volunteering » [35].

He implies that deportees' participation for this experiment avoided a difficult work. Servatius' argumentation goes against the mention of Himmler's letter: a risk of death [9]. Kurt Gutzeit explains that Himmler's allegation on hepatitis experiments dangers was justified by a lack of medical knowledge. During Nuremberg trials, Kurt Gutzeit, who was Dohmen's superior, failed to mention that this exper-

iment included a percutaneous liver biopsy. This technical gesture was first reported in 1923 [38] and presented a 2% risk of mortality according to a German doctor's publication written in 1940. Saul Oren-Hornfeld reported in his testimony that Dohmen didn't hesitate to realize this technical gesture on two children. He didn't realize this experiment on soldiers on the pretext that he was incompetent [40]. Bruno Meyer, a German deportee, was the dean of the bloc in the RII Infirmary, where he assisted to the experiment. His testimony is interesting because he recalled Saul Oren-Hornfeld's suffering during the liver biopsy realized by Dr Dohmen. The last shows a complete lack of empathy: « With sorrow, Saul Hornfeld bit his little fists. I quickly positioned myself in front of him and implored him, with a hollow voice, to stay brave. Blinded by his tears, he looked without seeing me. Tears were flowing down his cheeks. This little man stayed down on the bench, with his face to the board' wall, and gently began to cry, in his own. » [40].

6. What They Became After the War

The 23 defendants of Nuremberg's physicians trials have all plead not guilty (« nicht schuldig »). After the indictment and defense's pleadings, following the trial rendered on August 20 and 21, 1947, Karl Brandt and six other defendants were convicted, sentenced to death, and executed; nine defendants were convicted and sentenced to terms in prison; and seven defendants were acquitted. Executions have taken place in Lands berg jail on June 2, 1948. Sentenced to death on August 20, 1947, Karl Brandt declared before being execute: « I've always been fighting conscientiously for my convictions, with righteousness, franchise and quite openly (mit offenem Visier). I'm ready. - (Ich bin bereit) » [42]. Kurt Gutzeit became, after the war, the Chief of the Sanatorium of Herzogshohe in Bayreuth and the Chief of the Clinic of Furstenhof in Bad Wildungen. In 1954, he published the second Edition (the first one was published in 1937) of *Die Gastroskopie* [43], in collaboration with Heinrich Teitge. Arnold Dohmen established himself as an internal diseases specialist in Detmold township. He published an article in 1950 about its work on hepatitis, omitting to consider experiments on human being [44]. An investigation procedure is introduced against Dohmen in the 1970s. Dohmen denied being involved in children's selection and always claimed that he has cheated his superiors. He told them that he wasn't ready for inoculations on humans. He says that he delayed the experiments on children with false pretexts like the loss of virus strains after the failure of his animal's experiment. In addition, he explained that he realized experiments because he thought he could save the children and not deliver them to certain death [45]. In the end, he realized injections with serum and neutralized the hepatitis' action. The procedure against Arnold was suspended on February 27, 1975, on the pretext that, on the basis of the testimonies and the lack of specific documents, « it's not possible to disprove defendant 's statement that he realized only fictitious experiences » [46]. How to believe in the truthfulness of his words? Saul Oren-Hornfeld has doubts « How can we believe him then he lied on the origin of the

experiences and on guinea pig's selection? » [46]. Arnold Dohmen died on March 6, 1980 in Lippe, and he has maintained a dignified silence. We can understand here, how a physician, who discovered the hepatitis and the vaccine of this disease, didn't hesitate to make a deal with the devil for its own ends.

7. Hepatitis Experiments' Lessons

One of the most important elements of Nuremberg's physician's trials was awareness among judges about the legal loophole in the field of humans experiments following the Defence counsels' arguments [47]. After the 133-days of the trial, the public prosecutor juggled necessary to write a Code of International Law about human being experiment with rules so that ethical considerations should no longer be tolerated. It has been developed by four judges of the American Military Court and it rests at the mouth of two American experts cited by the accusation, Professor Andrew Ivy and Dr Leo Alexander [42]. The importance of the Nuremberg Code is his starting point of consciousness about the dangers of the advancement of science and the necessity to surround it in a number of rules. It is considered as a human rights legal code and not the Code of Medical Ethics that should be applied by physicians [42]. Hepatitis experiments' study provided that we understand that these medical experiments in concentration camps were possible just because the German Medical Corps was imbued of National-Socialist ideology. But also because the centralized and totalitarian regim encouraged their creation on the pretext that it would bring benefits for humanity. Arthur Caplan draw attention to the « relative silence » of medical ethics' experts about defense's argumentation « It's easier and less disturbing to relate Nazis criminal medical experiments to acts of perversion lead by a small group of lunatic, deviants and second-class persons. It's easier but it's wrong » [48]. It's important to underline that medical experiments were conducted by the authority with government funding and were planned in close collaboration with the largest research institutions of Germany. Many German prestigious doctors, who received research realized in concentration camps, have never been worried. But many people from the Medical Corps were aware of these experiments. Thus Alexander Mitscherlich wrote in 1947 that 23 defendants of Nuremberg's physicians trials represented only « the tip of the iceberg because the evil was present across the Medical Corps, which was obvious » (42). In the book *Hepatology: Textbook and Atlas* [49], in the chapter on the history of hepatology, written by Erwin Kuntz and Hans-Dieter Kuntz, they evoke large-scale epidemics, even pandemics of hepatitis during Second World War and approximately 16 million of cases. In this volume, it's recalled the first self-experiment by Voegt (who was his tutor) in 1941 with three collaborators and the experiments who have been realized on 6 others test persons. The authors forgot to say that Hans Voegt, who was Kurt Gutzeit's assistant, realized in Breslau between the 7 and 30 October, 1941, these « experiences on patients from the Psychiatry and Neurological Clinic of Breslau in Pr Werner Villinger's service. Erwin Kuntz and Hans-Dieter Kuntz evokes Professor Friedrich

Meythaler's work, the Chief of the Medical Polyclinic of Rostock and internal diseases advisor for the army. But they didn't recall that he realized experiments on British enemy combatants in September, 1941, as he wrote to his colleague Kurt Gutzeit, Professor of internal medicine in Breslau: « in Crete, I organized our problem of jaundice and I put an assistant on this case at the Brunner hospital (Stabsarzt). In my time, we already undertaken vaccination experiences among humans. I hope that these transmission experiences will have success, to take better control of jaundice. » [41]. In the volume, Erwin Kutz and Hans-Dieter Kuntz recalled that in 1952, Voegt changed the term « icterus infectious » to « hepatitis contagiosa » (1942) - also used by A. Dohmen in 1943. But they forgot the experiments carried out by Dohmen on Jewish children, transferred from Auschwitz to Sachsenhausen.

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