TUBERCULOSIS AMONG PRISONERS OF WAR IN GERMANY

BY

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During my four years as a prisoner I worked in a transit camp, a "Krankein-revier" (camp reception station), doing sick parades for the surrounding camps, a general hospital, and the special hospital for cases of tuberculosis. All these hospitals were mixed—i.e., contained prisoners of war of more than one nation—and in all of them I looked after the Tb.s, so that I was able to get some idea of the general picture of tuberculosis among these prisoners in Germany.

General Considerations

The living conditions of P.O.W. workers in Germany varied. They depended on the area of Germany, the type of work, the nationality of the prisoner, and the character of the Kommando Führer. In general the Russians had the worst conditions; all Russian Kommandos that I saw were overcrowded, badly ventilated, and dark, but I was not allowed to see many. The British and Americans, in general, had the best conditions, but even they were usually overcrowded.

Diet also differed: the German rations varied according to the type of work done, and also, to some extent, according to local supplies and nationality (Russians until the summer of 1944 received lower rations than others doing the same type of work). It is always difficult to determine from hearsay how much someone else is eating, so I am giving here only the diets I myself received. Doctors, orderlies, and patients were classed as "Normal-Arbeiters" along with the non-manual workers, and their diet in the various places where I worked was as follows:

1941: Transit camp	.. ..	Approx. 1,000 cal. p.d. for 6 months
1942-3: General hospital	.. ..	" 1,600 " " " 2 years
1944: Special hospital for Tb.s	.. ..	" 1,800 " " " 1 year
1945: "Revier"	.. ..	" 1,300 " " " 5 months

With such low basic diets, Red Cross food parcels became very important. The Americans and British were fortunate in usually having a parcel a week, which added about 1,500 calories a day to their diet. The French until 1944 also received parcels regularly, but Serbs, Poles, and Italians received very little and the Russians nothing at all.

The Germans apparently realized that such conditions were likely to produce a high incidence of tuberculosis, so in 1942 they instituted routine mass radiography. I was told verbally by a German that their reason for doing this was not humanitarian, but their fear that tuberculous P.O.W.s would infect German civilian workers. This view of the matter was supported by the German refusal to x-ray officers at Oflag (who had little contact with the civilians) until long after they had x-rayed all the working camps in the same area, and also by the lack of treatment and facilities given when the diagnosis had been made. The x-raying was carried out efficiently and quickly by mobile units, usually staffed by women. No figures are available as to the proportion of the P.O.W.s who were x-rayed. It was probably about 60%; but it is only fair to say that in some areas some P.O.W.s had two mass radiographs in five years. The diagnosing of the films was in general poor. There were also cases—far too many—where the films were correctly diagnosed but no action was taken, and the P.O.W. was left for another year spreading bacilli until he was diagnosed clinically.

Some idea of the poorness of the evaluation of the films can be obtained from the figures from Elsterhorst. During 1944 I analysed 68 consecutive sputum-positive cases admitted into Elsterhorst under my care. Of these, 19 had been diagnosed by means of radiography; the remaining 49 were diagnosed by clinical means. Of the latter, 13 had had routine skiagrams and been "missed," or were found positive but no action had been taken. It was very easy to check up on these cases, as the small skiagrams arrived with the patients with the diagnosis attached—x-ray positive or negative. It is important that the double danger of these "missed" cases should be realized. It is psychologically very difficult for an M.O. to make a diag-

nosis of tuberculosis when he knows that the patient has recently been radiographed and been declared negative. Another danger, due to the lack of explanation given by the Germans, arising from the mass radiography was the "Tb. neurosis" which spread rapidly among the prisoners.

The "Revier" and the Sick Parades

When doing such jobs the P.O.W. medical officer was responsible for the sick parades for all the surrounding working Kommandos and had a 50-bed hospital at his disposal. I did this work at Wittenberg for the last five months of the war, and it is on that area that most of these remarks are based. Some idea of the incidence of tuberculosis is given by the following figures for the French and Russian P.O.W.s in this area.

Population.—There were in 1943 1,000 French and 1,200 Russians. The number of French remained remarkably constant; the number of Russians fell to 1,000 in 1945. All these P.O.W.s were mass x-rayed in 1942 and the early part of 1943. All those who were found positive were removed to hospital. The figures thus give the incidence of pulmonary tuberculosis in a population from which practically all x-ray-positive men had been removed by the spring of 1943.

Procedure.—Suspects were discovered by the British M.O.s on sick parades, and a portion of these suspects were screened by a German M.O., who decided, rather arbitrarily, whether they were to be considered as cases of active tuberculosis or not. Only those accepted by the German M.O. are included in these figures, which can therefore be considered as minimal.

Figures.—A double check was possible through the "screening" reports and the admission and discharge book. The figures were also checked by my Dutch secretary. Those for 1945 are given for the first three months only.

	French (1,200)	Russian (1,200-1,000)	British (250)
1943, July-Dec.	0	6	0
1944, Jan.-June	1	14	0
July-Dec.	1	31	0
1945, Jan.-April (3 months) ..	4	11	0

Comment on the high incidence of tuberculosis among the Russians is almost superfluous. Reference has already been made to the conditions under which they lived and the diet they received. In Wittenberg it was striking that there were scarcely any big Russians left in 1945: lower metabolic demands had a very definite survival value. The raised incidence among the French in 1945 was doubtless a reflection of the absence of parcels from France after 1944.

Another interesting feature of Wittenberg medical life in 1945 was the appearance of 350 Danish policemen. These men, who were all of outstandingly good physique, had been made prisoners of war in Sept., 1944. They spent three months in a concentration camp and then came to a working party in Wittenberg. In the concentration camp the living and working conditions were fearful, but their diet was adequate, as they got excellent food parcels from Denmark weekly. They stayed only two months at Wittenberg, but I diagnosed seven cases of open active tuberculosis and four of pleurisy with effusion. In this instance it seemed that living conditions, other than diet, were mainly responsible.

On these sick parades the early diagnosis of tuberculosis presented quite unusual difficulties. They lasted from 8 a.m. until frequently to 2 p.m., and after 11 o'clock my efficiency deteriorated, particularly as we were at the time without parcels and on the 1,200-cal. German diet. With me latterly was a German sergeant, trying to get me on a sabotage charge, so the atmosphere was not restful!

Then there were the languages—Russian, Serbian, French, Dutch, Indian, Danish, Slovakian, Italian, Polish—to say nothing of the German I had to talk to the sergeant. I learnt to take a decent tuberculosis history in Russian, French, Serbian, Dutch, Italian, and German, and then to my dismay found I was no further on. All the patients were tired and wanted a rest; all of them wanted to do as little work as possible for Nazi Germany. I was a new doctor, and it was unreasonable to expect them to trust me at once; so I found that all Serbs and Indians said they suffered from haemoptysis, and all Serbs gave gruesome family histories. All Frenchmen seemed to have had pleurisy (they muddled up "pleurite" and "pleurisie").

Serbs and Indians all gave good histories of night sweats, and nearly everyone coughed and really had lost weight. The Russians were interesting; they rarely admitted tuberculous symptoms. I discovered the reason for this later; they were terrified of being sent to the special hospital for Russian cases because they thought everyone died there, and, so far as I could make out, they were quite right. The advanced Russian cases, while waiting at Wittenberg "Revier" for transport to "Zeithem," actually escaped to avoid going there.

When the histories proved so fallacious, I tried doing a larger number of B.S.R.s. Here too I found new difficulties. The high incidence of skin disease and slight hypoproteinaemic oedema made the B.S.R. more difficult than usual to interpret.

Having collected one's suspects, the next step was to get them x-rayed or screened. In many areas this was very difficult indeed, the Germans being most obstructive. At Wittenberg I was lucky in that I finally persuaded the German M.O. to let me screen 10 to 12 cases with him each week. In some other areas a positive sputum in addition was demanded before cases could be sent to hospital, and the Germans tended to argue that one negative sputum was proof that the case was inactive. This was particularly dangerous, as the German laboratories were very slack about P.O.W. sputa. There were also other difficulties. I once sent three sputa from one case to three different laboratories. Each one was said to have been destroyed by bombing. German M.O.s claimed that if they heard nothing abnormal clinically there could be nothing wrong with the patient.

The General Hospital (Reserv Lazarett)

My experience of this comes from looking after Serbian, French, and British tuberculosis cases at a Reserv Lazarett for two years. Here the problems of the early diagnosis of tuberculosis were slightly easier, as one could do one's own sputa and there was more leisure for multilingual activities; but the German doctor would never accept the sputum results done by prisoners of war—they had to be sent to a German laboratory; and I had for a time to take histories in Serbian and write them in German!

As regards screening, I had the same arrangements at Wittenberg. I screened about 6 suspects a week with a German civilian doctor—in this case a woman. At one period a German M.O. made a written protest against my being allowed in a dark-room with a German Frau—it was apparently a risk to the purity of German blood (!); but after a short interruption the screenings continued.

The great problem at the Reserv Lazarett was that of treatment. This should never have been a problem at all, as the cases should have been evacuated to the special hospitals; but in practice they stayed three to six months. There were many reasons for this: (a) Owing to lack of repatriation the special hospitals got overfilled. (b) The Germans made absurd transport rules. One was that you must have six of one nationality before you could have a transport. We then had relatively few British, and by the time we had five cases of tuberculosis the old ones started dying. (c) Sheer obstructionism: on many occasions when the Chef-arzt stated that he had asked for transport we found through our spy in the office that he had not. (d) In some general hospitals there was a regrettable lack of information about even the facilities at the special hospital, and cases were often kept for over a year, and cases of A.P.T. with adhesions were abandoned before being sent there. This lack of information was entirely due to the inefficiency of the Germans.

The basic diet, as already stated, was about 1,600 calories in these hospitals, and of this the tuberculosis patients found a large proportion uneatable. Frequent requests were made for extra food, but these were always refused until early in 1943, when a little milk was allowed, and later occasional eggs and white bread; but the available diet from the Germans was never more than 1,900 calories a day. The British patients did not suffer, as a satisfactory diet could always be made up from Red Cross food parcels and invalid comfort parcels; but the problem was very difficult for a British doctor looking after tuberculous Serb and French patients. (There were no Russians in this particular hospital.) We were unable to get any instructions from London, and there was unfortunately some feeling against

giving British food to other nationalities. I think, however, that all British M.O.s did give as much food as could be spared; I certainly did, and the results were well worth it.

Active treatment was very difficult there—the German doctor had never heard of it. Finally in 1943 I got an A.P.T. machine, but was then forbidden to use it, because the German doctor believed that A.P.T. cases could not travel in trains and thus could not be evacuated. The patients at Hospital 1251 did get complete rest, but often under difficulty. One reason for this was the shortage of orderlies. At one stage we had seven orderlies for 120 patients, of whom 20 were cases of tuberculosis. These orderlies had to fetch food and run the laboratory in addition to their ordinary day and night duty. They, too, were afraid of treating the disease, and some became very neurotic.

When working at Elsterhorst one was able to get some idea of the amount of rest tuberculous patients were obtaining at the various other general hospitals in Germany. On the whole the information was very depressing. Only a few of the open active cases were at complete rest; some had even been encouraged to do physical jerks, many had been for walks, many did their own cooking. There seemed unfortunately to be a widespread belief that if a patient was afebrile he could get up and walk, however big his cavity. That was found not only among German but also among Allied and British doctors.

It is worth while mentioning the cemetery at Hospital 1251. The P.O.W. section there served both a surgical and a medical hospital, but 80% of the graves were filled with victims of tuberculosis. This, I think, gives some idea of the prevalence of the disease in imprisonment.

The type of transport between general hospitals and the special tuberculosis hospitals was very bad. Originally patients travelled in unheated cattle-trucks without even straw and orderlies. After persistent complaint we evolved step by step—getting first straw, then orderlies, then heat, and finally reserved third-class compartments. Later we degenerated again. I remember in 1944 some tuberculous Canadians arriving at Elsterhorst. They included a case of tuberculous meningitis, a spontaneous A.P.T. with empyema, and a case of tuberculosis with diabetes; they had travelled three days in an unheated cattle-truck, with no orderlies, little food, and no insulin. In spite of innumerable complaints travelling facilities got worse and worse as the end of the war approached.

Special Hospitals

1. "Königswartha" was originally a hospital for tuberculous French P.O.W.s. The first English cases arrived there after the fiasco of the Rouen evacuation. Originally a blind asylum, it had limited accommodation, poor cooking facilities, pleasant gardens, and bad sanitation. At that time the repatriation prospects were *nil*, and inevitably the hospital developed into a pleasant place to die in rather than a serious hospital, although much good work was done there.

2. Elsterhorst became the chief hospital for tuberculosis in 1943 after numerous complaints from the British about the overcrowding at Königswartha. This was a modern German standard hutted hospital. The cooking facilities, the sanitation, and the wards were good, but unfortunately it was situated in the middle of a sandy plain, and there was a severe water shortage and no shade in summer. The hospital was six kilometres from the nearest station, and inevitably a large number of advanced bilateral cases were forced to walk that distance carrying their kit. There was, too, the inevitable wire round the hospital. Security measures were not too severe until 1944, when a stringent curfew at 9 p.m. was introduced, and doctors and orderlies were not allowed to move from one barrack to another after that time without a guard. As it took five or ten minutes to get a guard this made emergencies at night very dangerous. Searches also started at this time; it was an odd sight to see soldiers of the Third Reich search men with advanced tuberculosis in bed and remove excess food—in case they escaped! Actually the soldiers were ashamed; they did the work gently, and it cleaned the lockers. There was another odd sight when a big convoy of tuberculous patients arrived from Lamsdorf. The truck drove into the hospital and was then surrounded by soldiers with fixed bayonets to prevent doctors getting near until the men had been searched. I was finally thrown out of the hospital when I stated that it was

"ein Skandal im Lande von Robert Koch" when the Chef-arzt ordered me to put a febrile bilateral A.P.T. case with fluid on to an open truck with snow falling and the temperature well below zero.

Dietetically the Germans were not over-generous; they provided about 2,000 calories a day, of which ill patients could manage to eat only part. However, with the help of food parcels, invalid comfort parcels, and a black market, the patients were probably the best fed in Europe. They suffered only from a lack of fresh vegetables and a somewhat monotonous menu. It was very striking that, there in the heart of Germany in the middle of the war, three-fifths of the food eaten should come from the Allies.

All the usual methods of collapse therapy were employed in the hospital, except Monaldi's, and on the whole the patients rested well. It is difficult to present any picture of the type of treatment given in a hospital without going into great detail, but the following figures from a series of consecutive positive cases in 1944, when the hospital was at its best, may help:

Positive cases with at least 3 months' stay in hospital	44
No. of A.P.T.s attempted	39
" " " successful	31

Of the A.P.T.s 2 were made bilateral and 5 were abandoned. Of the 13 failed or abandoned A.P.T. cases 7 later had a phrenic avulsion and one in addition a rather unsuccessful pneumoperitoneum. Of the successful A.P.T.s which were not abandoned (26) 20 had thoracoscopies with or without adhesion-section. Of all these, one died at Elsterhorst and 24 became negative before leaving, after an average of 3.3 months in hospital—i.e., 54.4%. The latter figure should not be taken too seriously—the total is too small and our facilities for detecting bacilli were not very advanced; but all the cases which I have so far checked up on in England have remained negative, and several more have become negative.

The hospital was originally completely international; there were Australians, New Zealanders, Canadians, South Africans, Cypriots, Indians, Americans, French, Poles, Serbs, Dutch, Norwegians, Spaniards, Italians, negroes, to say nothing of the English, the Welsh, the Irish, the Scots, and the Channel Islanders, among the patients; and the Russians helped with the work of the hospital. On the whole they lived together in peace—chiefly, perhaps, because they all received British Red Cross parcels!

It would be wrong to mention Elsterhorst without naming Lieut.-Col. Le Souef, A.A.M.C., and Major Wallis, R.A.M.C. Everyone at Elsterhorst owes them a great debt of gratitude, and I am sure the vast majority share my admiration and affection for them both.

Nova et Vetera

THE HISTORY OF SYPHILIS

In the month of February, 1495, Charles VIII of France arrived with his mercenaries before the city of Naples. The city fell almost without opposition, and there followed in the armies of both sides, and in civilians, an outbreak of a virulent disease which had not been long known in Europe. The results of this mixing of mercenaries and civilians were tragic, and when Charles disbanded his army at Lyons seven months later the disease was already causing many deaths in addition to horrible features and painful symptoms. Ruy Dias de Isla called it the *Morbo Serpentino*—hideous, dangerous, and terrible as the serpent itself. Throughout much of the following century the disease was epidemic, and presented all the characters of any serious epidemic disease which attacks an unprotected population. Thereafter the people of Europe developed some degree of immunity, so that the disease now became more remarkable for its chronic manifestations. In 1530 Fracastorius, the greatest of the early epidemiologists and the wielder of a Latin measure almost as stately as that moulded by the swan of Mantua, wrote a poem in which he named the disease "syphilis." Nearly two centuries later the name found its way into medical writings. In the four and a half centuries since it first attracted attention it has been the subject of a vast literature. There have been many histories of syphilis, but there is even now no agreement on certain moot points. In a recent Vicary Lecture at the Royal College of Surgeons Mr. J.

Johnston Abraham¹ tackled the subject again, and his contribution will be read with great interest even by those who are familiar with the subject.

There will always be those who regard the first origin of syphilis in Europe as a purely academic question. Mr. Johnston Abraham does not commit himself on this point, but it is perhaps not difficult to see where his sympathies lie. Although he says that syphilis was *apparently* an unknown disease in Europe in 1495, in his discussion of the Columban origin he cites writers such as de Isla, Fernandez de Oviedo, and las Casas, who were impressed by the violence of the outbreak—unlike anything they had previously known. There is an important school which believes that syphilis had been known in Europe since the earliest times. Sudhoff, for example, considered that mercury was being used from at least the twelfth century for certain skin conditions which were probably syphilitic. The matter will probably never be settled. Apart from the dramatic events of the fifteenth and sixteenth centuries, the author concentrates in this lecture mainly on methods of treatment and on the monist and dualist theories of the disease. The condition which we now know as gonorrhoea had been recognized for centuries. John Arderne mentioned "chaude pisse," as it was then termed. Paracelsus lent his great weight to the theory—advanced shortly before his time—that syphilis and gonorrhoea were one and the same disease. The unfortunate experiment which John Hunter performed on himself in 1767 seemed to prove that the monists were right. Although Benjamin Bell published evidence to the contrary in 1793, and Richard Carmichael taught in 1814 that they were different diseases, it was not until the publication of the painstaking experiments of Ricord in 1838 that the dualist theory became widely accepted. There is evidence—for example, the statement of Gaspar Torella—that mercury was used in the treatment of syphilis before the end of the fifteenth century. As a result partly of the unscrupulous action of quacks the orthodox profession was forced to give larger and larger doses, until a course of mercurials was an abominable ordeal for the unfortunate patient. China root and sarsaparilla enjoyed a brief hour on the stage, but guaiac, first introduced in 1517, had a longer run. Wallace of Dublin used potassium iodide in the eighteen-thirties, and Auzas-Turenne in 1850 recommended inoculation of the patient with pus from a soft sore. He continued to advocate his method of "syphilization" for a period of twenty-eight years! The modern armamentarium, based on the work of Schaudinn and Ehrlich, is outside the scope of the lecture.

There are few diseases whose history is so difficult to write concisely and fairly as that of syphilis. Mr. Johnston Abraham has succeeded in a difficult task in this admirable and well-illustrated lecture. Many will also be grateful to him for giving the true derivation of the term "Lock Hospital"—from the French *les loques* (rags), with which the lazars wiped their sores before they entered the lazaret houses in the days when these institutions, used less and less for their original purpose, were turned over to the victims of syphilis, the new epidemic disease.

E. A. U.

VARRIER-JONES MEMORIAL LECTURE

As a memorial to the late Sir Pendrill Varrier-Jones, the founder and first medical director of Papworth Village Settlement for the Tuberculous, near Cambridge, an annual memorial lecture has been instituted. The first was given by Wing Commander, now Air Commodore, R. R. Trail, who has succeeded Sir Pendrill as medical director of Papworth and its associated centre at Enham, and the second by Sir Arthur MacNalty, who was Chief Medical Officer of the Ministry of Health from 1935 to 1941. The third lecture of the series is to be given in London at the Hospital for Sick Children, Great Ormond Street, on Wednesday next, Nov. 14, by Dr. Alan Moncrieff. His subject is "Tuberculosis in Childhood," and in it he will make special reference to the exhaustive survey of the children of Papworth, prepared from Papworth records extending over more than 25 years by Dr. E. M. Brieger. This survey, published under the title *The Papworth Families*, establishes the success of Papworth in protecting Papworth-born children against tuberculosis, and demonstrates anew that the children of the tuberculous need not contract the disease and indeed will not do so if the family's domestic conditions permit medical advice to be carried out.

¹ *Brit. J. Surg.*, 1944, 32, 225.