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Ad. No. 405020

# ABOUT AN OUTBREAK OF ANTHRAX IN HUMAN BEINGS (?) AND ANIMALS

TRANSLATION NO.

760

APRIL 1963

DDC  
MAY 31 1963  
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U.S. ARMY BIOLOGICAL LABORATORIES  
FORT DETRICK, FREDERICK, MARYLAND

NO OTS

CCEL: FD2-3742 (T-53-1)  
JPRS: R-3043-D

2 April 1963

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Translated for:

**U. S. CHEMICAL CORPS BIOLOGICAL LABORATORIES  
Ft. Detrick, Md.**

By:

**U. S. DEPARTMENT OF COMMERCE  
OFFICE OF TECHNICAL SERVICES  
JOINT PUBLICATIONS RESEARCH SERVICE  
Building T-30  
Ohio Drive & Independence Ave., S.W.  
Washington 25, D. C.**

ABOUT AN OUTBREAK OF ANTHRAX IN HUMAN BEINGS (?) AND ANIMALS\*

Following is a translation of an article by M. Soeparwi, Netherlands East Indies Government Veterinarian in Buitenzorg, in the Dutch-language publication Nederlandsch-Indische bladen voor Diergeneeskunde en Dierenteelt (Netherlands-Indies Journal of Veterinary Medicine and Animal Breeding) Vol 33, 1921, pp 163-172.

On 23 March 1922 during an inspection on a pig-breeding farm in the region of Poerwakarta, I was told by an Arab living in Poerwakarta that around two months ago in the native villages of Nangewer, Pesawahan, Tjihideung, and Mengkol, Sub-District and District of Poerwakarta many sudden deaths had happened of men as well as animals, and that also of his stock of cattle during that time three cows had died that were taken care of in the Kampong of Nangewer.

As those illness and death cases never had been reported to me, the Wedana and the Assistant Wedana of the district were immediately asked whether they knew anything about it. Both native officers gave a negative answer and stated that with every inspection the community chiefs were questioned about the health of the cattle, but that they always got a favorable reply.

After consulting the above-mentioned government officers it was decided to inspect the involved villages. Having the disposition of the native regional police the cattle farmers were told to assemble their animals in the village of Nangewer for examination. Thus, we went the next morning (March 24) to this village meeting with the local chief and eight farmers. They declared that the health condition at this time was satisfactory, but that two months ago three animals belonging to the before-mentioned Arab had died. The caretaker of the animals said they had suddenly died without any known cause after respectively three days and one week. After this the buffaloes present at the meeting place were examined, but nothing special was found. One of the farmers had observed that one of his buffaloes was listless and ate little, but the result of the clinical examination was also negative.

After this, the village of Menkol was visited. The Wakil-Loerah (taking the place of the village chief) and the Pentjalang (a kind of village orderly) declared that indeed in the Javanese month of Djoemadilakir (probably around December 1921- January 1922) not only among the animals (buffaloes, cows, sheep and goats), but also among the inhabitants, many sudden deaths had occurred and that many a farmer had not only lost cattle, but also family members and servants. He guessed

\* Anthrax serum is prepared from cows and donkeys by the Veterinary Laboratory in Buitenzorg.

that around twenty-five people had succumbed. The main symptoms had been vomiting and violent diarrhoea, often mixed with blood, with death following soon afterward.

The police said that the illness and death cases were known by the administration; they were thought to be cholera and vaccinations against this disease were given. Cattle diseases were not mentioned by the village chief. The village officers said after this that during that time many sick animals were slaughtered and the meat sold and eaten.

Because I didn't think it impossible that this had been cases of Septichaemia Haemorrhagica, the question was asked whether the diseased animals had had breathing trouble and had made snoring noises, but this was absolutely denied. Four of the animals taken care of by the Wakil-Loerah himself had died suddenly within a few days, and two others were slaughtered just in time. The Wakil-Loerah was then asked whether he had observed anything extraordinary in the slaughtered animals, and he answered that the spleen had been abnormally big, weak and frail; the edge of the spleen he compared with the edge of a little finger. The word "spleen" was used by the Wakil without any inducement from our side; in putting the question I had intentionally avoided using this word.

The following animals, which in this period had been slaughtered because of illness or had died, were mentioned by the Wakil-Loerah and the Pentjalang:

Name of Owner	Buffaloes	Cows, Steers	Sheep	Goats
Ba. Bainan	1			
Sarmin	1			
Ba. Nesih	1			
Sartam	1			
Karnan		1		
Ba. Karti		1		
Darinan		1		
Ba. Oembri		3		2
Ba. Asni		6	5	
Baham			5	
Ba. Rasimah			4	
Ba. Djamsi				4
Ba. Roesman				2
Ba. Oemi				2
Ba. Binan				1
Bandaloe				3
Sech Saleh				4
Esmā				2
Total	4	12	14	20

The village chief who was told about these cases by his subordinates had omitted to report this to the assistant Wedana; because of this offense he was discharged.

The native civil physician in Poerwakarta, told by me about the fact that at the time beside human deaths also animal deaths had taken place and that there could have been a possible connection, for instance, because of consumption of meat of diseased animals, declared that the illness among the population was clinically diagnosed as cholera, but that the bacteriological examination done in part of the cases had been negative and that in other cases the material sent to the laboratory arrived corrupted. He had also considered the possibility of a connection between the cases of human beings and animals.

Because of the importance of getting some clarity in this case and because I supposed, in accordance with the clinical data, the presence of anthrax, the Veterinary Laboratory was asked for advice. The director, Dr. C. Nubberman, advised me to exhume, if possible, a cadaver and to gather material for examination by means of the thermo-precipitation method.

At the exhumation on 31 May 1922 of one of the latest deceased animals, approximately four months after death, only few little pieces of unrecognizable tissue mixed with dirt could be obtained. However, in the village the dried hide of a sheep, slaughtered as an emergency case was found. The material was sent to the Veterinary Laboratory. My supposition proved to be true: cultures, as well as animal-inoculations were positive. A boiled extract was made of the exhumed cadaver material, and by means of a precipitating serum the thermo-precipitation reaction of Ascoli was performed. The result, in this case also positive, is shown in the following table, kindly made available by the Veterinary Laboratory.

Number of tube	Contents of Tube	Result (ring-forming)
1	1 c.c. praecip. serum + 1 c.c. extract to examin	+
2	1 c.c. praec. serum + 1 c.c. boiled extract from the spleen of a guinea pig dead of anthrax	+
3	1 c.c. praec. serum + 1 c.c. extract from an anthrax culture on slanting agar.	+
4	1 c.c. praec. serum + 1 c.c. boiled extract from spleen of a healthy guinea pig.	-
5	1 c.c. praecip. serum + 1 c.c. physiol. NaCl solution.	-
6	1 c.c. normal cow serum + 1 c.c. extract to be examined	-
7	1 c.c. normal cow serum + 1 c.c. boiled extract from spleen of guinea pig dead of anthrax.	-

When the diagnosis "anthrax" was made certain, more information had to be obtained from family members of the deceased persons and from some cattle owners. It gave me and my orderly a lot of trouble to get this information. Everyone knows how difficult it is to make the simple village people speak. With much distrust they told me bit by bit the following particulars:

The usual symptoms of the sick buffaloes and other cattle were: the animals made some turning-around movements, fell down and succumbed. Many an animal didn't show any symptoms before suddenly falling down and dying. Because of the turning movements, the population called this sickness: "toedjoe keliling". Some animals were ill during a longer time, then they were slaughtered and the meat sold, partly in the village, partly in the town of Poerwakarta. Sheep and goats were most times ill during two to three days. They felt hot, hunger and thirst were suppressed and the hair was raised. But sudden deaths without preceding symptoms were not exceptional. Also, many of these animals were slaughtered before dying and the meat consumed.

Ba. O. also had slaughtered a sick cow. He told me that after having already lost a few head of cattle, a cow driven home fell down 100 meters from the corral and could not or would not walk anymore. Being afraid the cow would die, he slaughtered the animal and sold the meat in the village. About eight days later two of his school age children became feverish and died, one a few days after the other. Those children were vaccinated against cholera approximately 20 days before. Except for fever the father had not observed anything in particular. The children ate no meat of the slaughtered cow, which statement is in my opinion not acceptable. It is not very probable that in the same house where the children lived a cow had been slaughtered without their receiving one piece of meat or organ from it. The denial of Ba. O. was possibly attributable to fear of the possibly not too nice consequences.

Th. Poerwakarta, police officer, also vaccinated against cholera, died a month later after having eaten meat originating from the village of Menkol. The symptoms were: blood diarrhoea, tetanic cramps of the limbs, vomiting, blue-red nails; on the right arm and the left thigh was a movable bump the size of a marble. He had dined at six o'clock p.m., felt ill at midnight and died next morning at 8 a.m. The information was given by his brother who had been present during sickness and death.

Nji S. died four days after having eaten from the same meat as Th. The illness lasted two days and the symptoms were: vomiting, blood diarrhoea, tetanic cramps of the body and limbs, blue-red nails. Information from husband.

Em, Ba I. and Nji Sa., living in a village near Poerwakarta, had, as related by the family, died after an illness of two days (vomiting, blood diarrhoea, cramps, blue-red nails); Ba I. had had red bumps on his body. These persons were not vaccinated against cholera. The family could not say whether they had eaten meat or not. There is at the crossroads not far from their living quarters a little eating place where,

among other things, sajoer-daging (a mixture of vegetables and meat) is sold. The meat is usually bought by the owner in the nearby town. It could not be traced whether or not the above-mentioned persons had dined in this eating place.

Summarizing, it can be stated that nearly all persons about whom it was possible to get information, died of a peracute or acute illness with rather uniform symptoms, mainly consisting of fever, vomiting, blood diarrhoea, cramps and blue-red coloring of the nails. Some of those people, in fact, became ill shortly after eating fresh meat of emergency-slaughtered animals, which, according to bacteriological tests, had been victims of an anthrax outbreak in the villages. The other persons of whom it was not known with certainty, for instance the children of Ba 0., had also with great probability consumed infected meat. It does not seem too risky to say that all the mentioned persons died of anthrax. More so as the clinical cholera diagnosis could in no case bacteriologically be confirmed, and that some of those persons had been vaccinated against cholera a month before. Besides, there is the fact that the symptoms were identical with the symptoms of "anthrax intestinalis", a form of anthrax, according to some authors I could look up (Strumpell, Frohner-Zwick, Sobernheim, Hutyra-Marck), caused by eating of anthrax meat. The established bumps of Th. and Ba I. could have been carbuncles or local edema, which may appear in intestinal anthrax. The cases without special symptoms of the children of Ba. 0. could have been a pure septicemia.

In my opinion it is recommendable to prove the above supposition, still to try to make the anthrax diagnosis a certainty by exhuming cadaver parts of the deceased persons and clarify this important problem for human medicine, a problem which may play a bigger part for the population of the East Indies than is superficially presumed. Anyway, the necessity is shown for good collaboration between physicians and veterinarians and the great usefulness of both having knowledge of comparable medicine; sometimes the important part to take care of human health is given to the veterinarian. To put this forward was the goal of this treatise.

Buitenzorg July 1922

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