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CAUSES OF AND COUNTER-MEASURES FOR THE
CHRONIC CASES OF DIARRHOEA AMONG THE
PRISONERS OF WAR.

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AT

OSAKA Concentration Camp and
the Attached Infirmary.

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I. Introduction

The present thesis deals with the statistical observations on the causes and the counter-measures of the chronic diarrhoea very peculiar to the POW patients, based upon the latest clinical experiences of the physicians in the Osaka POW Camp and its Attached Infirmary have had.

The diseases the POWs are apt to suffer do not differ, roughly to say, much from those found in the Japanese Military Hospitals when classified according to the kind of diseases. Summing them up, however, by setting an item under the designation of chronic diarrhoea, the large majority of the POW patients come under the case in which the patients complain of the diarrhoea as their main complaint. The patients under this designation show very high percentage especially at the beginning of their captivity on the field, amounting, for instance, 80% of all POWs at a certain camp in the Philippines. Fortunately, it is seldom to see such a high percentage among those transferred to Japan Proper.

The Osaka POW Camp, nevertheless, has experienced a considerable number of the cases of chronic diarrhoea since its opening to date. As the latest case, in the early summer of the 19th Year of Showa, the number of sufferers from diarrhoea in several detached camps amounted to about 50% of all patients.

Though the Attached Infirmary to the Osaka POW Camp has not yet been sufficiently equipped, as not so much time elapsed since its opening, the medical officers noticed that, out of their daily experiences in treating the POW patients, the frequency of the chronic diarrhoea ranked first. Having deeply felt that it will be of help in promoting the working efficiency and ~~beated~~ of the POW to investigate the causes and to devise the counter-measures thereof, we beg herewith to summarize our observations in a small volume for the reference of our comrades in the Army Sanitary Department.

II. On the Cause.

By the term diarrhoea we mean an abnormal frequency of the intestinal excrements. It is unnecessary here to repeat pathologic-anatomical discussion of its causes. The diarrhoea peculiar to the POWs engaging works can roughly be summarized into the following categories:

Paragraph One: Infectious Diarrhoea

1. Amoebic and Bacterial Dysenteries
2. Cholera
3. Typhoid and Para-typhoid
4. Intestinal Tuberculosis
5. Intestinal Parasites

It is generally known that the infectious diseases of the digestive organs, especially of the intestines are the most common causes of diarrhoea.

Of the diarrhoeas, one most peculiar to the POW patients is dysentric diarrhoea

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In the 17th Year of Showa, 30% of 3,600 inmates at a certain POW Camp in the Philippines were found to be suffering from the amoebic diarrhoea. It is obvious that still higher percentage of sufferers would have been detected if the bacteriological examinations were made, by the staining method.

During a period of from April to September, the 19th Year of Showa, (1944) there occurred many cases of diarrhoea in several detached camps within the jurisdiction of the Osaka Concentration Camp. The examination of feces showed that about 2% of all the POW and 13% of all diarrhoea cases were found to be suffering from amoebic dysentery.

Though we made the examination assuming that the germ-carrier of the amoebic dysentery to be the important factor in causing the chronic diarrhoea, the facts showed, as above mentioned, to the contrary to our supposition that only about 2% of the POWs transferred to Japan Proper were, luckily to say, found to be germ-carriers.

Since the opening of this infirmary, we had, luckily, no case of bacterial dysentery, cholera, typhoid and para-typhoid. As to the intestinal tuberculosis, we have, at present, several cases in some detached camps and their attached infirmaries; but they can not be recognized as the cause of chronic diarrhoea peculiar to the POWs: On the other hand, intestinal parasites, especially Ascaris (roundworm) is causing here a chronic diarrhoea, and we detected that 6% of all diarrhoea cases in our attached infirmary, as of September, the 19th Year of Showa, were caused by ascaris, making the patients throughly recover from the condition of diarrhoea by vermicide treatments.

Paragraph Two: DIARRHOEA due to Toxic Poisoning.

Food and medicinal poisoning are also wellknown causes of frequent typical symptoms of acute diarrhoea. In the instances of the POWs, especially, mass food poisoning often occurred abruptly as the result of almost unavoidable greedy taking of deteriorated food owing to the food shortage overwhelming to meet and the excessive labour, common state to almost all POW Camps nowadays. Rotten protein, especially rotten fish, is its most common cause and drinking of infected water in summer is also one of the important factors.

We have experienced several cases of this kind of diarrhoea in some detached camps since the opening of the Osaka POW Camp. In a certain camp, for instance, in September, the 19th Year of Showa, we found that about 50% of all internee suffered from it.

Paragraph Three: FOOD DEFICIENTIOUS or MALNUTRITIOUS DIARRHOEA

1. Malnutrition
2. Beriberi
3. Pellagra
4. Peripheral Nervous Inflammation
5. Scorbutus

These are main causes of diarrhoea among the POW. According to a survey made in September, the 19th Year of Showa, about 25 to 30% of all diarrhoea cases were found to be due to food deficiency. One thing here to mention specially, however, is that, since this May the food allotment for the POWs has been considerably improved and the index number for the nutritive value of the POWs' food in the detached camps is now gradually going upward and does not sink below 3,000 calories in general. So we can now reasonably expect a gradual decrease in number of Malnutritious diarrhoea cases in the future, and the eradication of this sort of causes may be attained very soon.

If it is presumed that a POW takes food of about 2,000 calories a day and consumes, at least, over 3,000 calories a day, then the digestive and absorptive power of his intestinal mucous membrane will considerably be deteriorated as the result of the conspicuous consumption of the physical composition, and the decline of the general

resisting power and obstinate chronic diarrhoea will be incurred. It brings about the deficiency in protein and oedema too, causing thus often chronic diarrhoea.

Generally speaking, the food deficiency is accompanied by the partial deficiency of certain nutritious elements, especially that of vitamins.

We could often detect, in the cases of the POW food deficiency, the combined symptoms of beriberi, pellagra, peripheral nervous inflammation and scorbutus etc. In the case of the POW at least, the above mentioned symptoms of vitamin deficiency can not be considered apart from food deficiency in general. Thus, we must always keep in mind that the vitamin deficiency case of the POW always accompanies the chronic diarrhoea as the main complaint.

Paragraph Four: NON-TYPICAL DIARRHOEA

1. Sudden transition from Foreign Diets to Japanese Ones.
2. Side-dishes of Fibrous Food
3. Laxative Food (especially Soya-beans as Staple Food)
4. Diathesis of the POW against (2) and (3)
5. Mental Influence of the Captivity.
6. Climatic Influence of Japan Proper

Those three kinds of causes above mentioned are the most typical of, and not confined merely to the POW. The similar cases can often be found in Japanese Military Hospitals. We must especially mention, however, that the chronic diarrhoea peculiar to the POW are incurred by miscellaneous causes to be summarized under the designation of non-typical diarrhoea beside the above mentioned three items. These non-typical diarrhoea reveal no particular clinical symptom in daily life. The patients are in comparatively good nutritious condition and so vigorous that they are not necessarily to be kept in door at their early stage of disease, though they complain several times or over ten times of fluid-like stool. They will be able to bear certain degree of labour so far as careful countermeasures be taken. A survey in September, the 19th Year of Showa detected about 20 to 25% of all diarrhoea cases to be of this kind of non-typical diarrhoea.

III. On the Countermeasures.

We have so far described in brief the causes of the chronic diarrhoea prevailing among the POWs. Recently, we have studied the countermeasures against them at the Osaka P.O.W. Camps and since July, the 19th Year of Showa (1944), the number of diarrhoea patients showed the tendency of gradual decrease.

(1) Infectious Diarrhoea

Concerning this item, the health officers' attention was directed, following generally the instances at the Military Hospitals in Japan proper, to the readjustment of the sanitary services and equipments, cultivation of ideas on sanitation and preventive infection at the time of their reception. Further to say about the personal hygiene, body and clothes-cleaning, hand-washing and gargling are strictly enforced in any camps and we have experienced no epidemic outbreak of infectious diarrhoea since the opening of the Osaka POW Camp, whose record we wish to keep unaltered with the utmost precaution.

One thing to be noticed, however, is that germ-carriers, especially of amoebic dysentery, are often detected among the POW patients; the fact suggesting the necessity of incessant feces-examination and quick isolation in every camp in the future.

We beg herewith to offer, to the reference of the concerned, a brief description of the sanitary equipments and countermeasures against the chronic diarrhoea devised with the joint research of the army surgeons on duty at the attached infirmary of the Osaka Concentration Camp as follows.

(Handwritten insertion by a MIZUTANI which reads as follows:--

As the summer draws near, I will transmit this to every detached camp by means of monthly bulletin etc., and expect not to fail in every respect.)

A. General equipments for personal sanitation.

(a) The following methods of table-ware disinfection as applied in the field operation shall easily be applied in any camp, namely, to put three drums of 50 gallon content on small fire range and fill the first drum with hot soap-water and the other two with clean-hot-water and let every team take the process of disinfection and rinsing after every meal.

(b) Further effort shall be made regarding the cleaning of body and clothes, especially to enforce washing hands with soap before every meal and after soiling the lavatory.

(c) Considering the fact that there are many diarrhoea patients, we advocate to abolish the present bathing equipments in every camp and, instead thereof, to conduct hotwater by iron pipe from the main tank so that everyone can use it by first receiving it into a bucket.

(d) Overcrowded meeting shall be prohibited and diarrhoea patients shall be isolated.

(e) Clothes and shoes shall be changed timely and custodian's attention shall be directed to the maintenance of suitable temperature in the camp and infirmary in winter.

B. Sanitary Equipments

(a) So long as the water-flushing lavatory and the drainage purifying tank are not equipped, the following arrangement shall be taken for flycatching, namely (1) to drain up the lavatory tank incessantly, (2) to furnish sufficient fly-traps and papers and (3) to fit the cover to each seat of lavatory.

(b) As to the kitchen, the following points shall be observed, namely (1) to expell germ-carrying cooks from the kitchen by way of the pathological examination, (2) to take effective measure of fly-prevention, (3) to fit the cover to all table-wares and (4) to have army surgeon supervise cooks strictly.

C. Water Supply Equipments.

Wherever service water is not available, boiled water or potassium chlorate treated water shall be supplied.

D. Disposition of Drainage and Garbages.

(a) All drain ditches should be straightly laid out and drained at a competent distance from the living quarters and fitted with the cover.

(b) Garbage boxes should be fitted with the covers and the garbages should be promptly disposed.

(2) Toxic Diarrhoea

Selection of foodstuffs and way of cooking are the most important factors in preventing toxic diarrhoea and the degenerated protein, especially decaying fish, is often the main cause of intoxication. Cases of Toxic diarrhoea hitherto experienced at the Osaka POW Camp were all slight, and even in the case of September, the 19th Year of Showa, in which about 30% of all internees of a certain detached camp suffered, all patients recovered in three or five days. Toxic death has never been experienced in this Camp.

Toxic diarrhoea, however, always breaks out abruptly and prevalently and has much influence upon the health and labour-supply. Therefore, selection of foodstuffs, devices on the way of cooking and tasting on menu heavily fall on the shoulders of the surgeons as their responsibilities. Whenever, a toxic diarrhoea case is found to be slight, then the drug treatment is unnecessary, and the most recommendable treatment is to take care of keeping him warm, to let the patient lie in bed fasting for 24 hours and then to feed him beginning with liquid food. In case when the intoxication is serious with high fever and heart-disease, it is, of course necessary to take such suitable measures in time as stomach-washing, higher intestines-washing, dosing of purgatives and heart-medicine, injection of Ringer's solution or blood-transfusion. We have, luckily, never experienced such a serious case of toxic diarrhoea since the opening of this Camp.

(3) Food deficientious malnutritions diarrhoea

It is necessary to feed POW workers with food of over full 3,000 calories a day, namely, 550 gram of carbohydrate, 57 gram of fat and 70 gram of protein, not to mention suitable quantity of various elements of nutrition. It is especially to be mentioned that this degree of nourishment is not only necessary to the POW workers but absolutely indispensable to the POW patients resting in the attached infirmary. It is almost needless to emphasize on the necessity of alimentotherapy or dietary cure in the treatment of disease in general. Most of the POW patients have in especial been suffering already from the food deficiency and there is no other way of cure than the alimentotherapy.

It must be said to be a great advancement in the dietary treatment of POWs that considerable improvements in dietary accommodation were made in all detached camps since May, 1944, especially

after the introduction of special preparations of soya-beans bones and viscera of cows and fish-meals for protein supply; as a result gradual decrease of the food deficient diarrhoea. The food deficient diarrhoea can be cured with dietary treatment as its best countermeasure lies in the improvement of the nutritive value, sufficient supply of protein, in especial.

It is noteworthy, however, that the food deficiency prevalent among the POWs often accompanies the symptoms of partial deficiency of various nutritive elements, especially of vitamins. We very often clinically detected the cases of malnutrition accompanying beriberi or pellagra. In such cases, if we pay too much attention to the concurrent symptoms and treat by giving vitamins, neglecting to take care of the principal disease then it would eventually lead to an undesirable prognosis.

Our recent experience showed that, in not a few cases, stressed dietary treatment for considerably serious patients of malnutrition with beriberi lead to the cure of serious beriberi alongside with the recovered nutrition.

When we found many cases of malnutrition with beriberi or peripheral nervous inflammation among the POWs newly transferred from abroad to the AMAGASAKI Detached Camp this August, we applied not vitamin pills, but merely a countermeasure of devices on recovery of nutrition, dosing of rice-bran and moderate sun-bathing with the result that they could be cured in a very short time. This is obviously a noteworthy instance.

(4) Non-typical Diarrhoea

The causes of diarrhoea peculiar to the POWs, as mentioned here under the designation of non-typical diarrhoea, are various and multilateral, the influence of climate and weather the cooking and combination of food and individual physical constitution, taste and customs are the important factors. Our special attention must be paid to the fact that the mental influence of the POW life often constitute a cause of diarrhoea as cases of hypochondria and high degree hysteria are frequently found among them. Consequently, it is rather necessary, as the countermeasure, to console and treat them with a certain degree of generosity, for their mental worry and physical sufferings are very great in this strange land. Especially, in the case caused by mental influence, the suggestive treatment had often remarkable

effect. Recently, in the attached infirmary, we had army surgeons exclusively engaged in the study of the treatment of this sort of chronic diarrhoea without the help of pharmacotherapy with considerable success.

As the characteristic symptoms of non-typical diarrhoea any subjective or objective symptoms are hardly discerned except the fluid-like stool for several or over-ten times a day as main complaint. When the diarrhoea be protracted, it sometimes incurs general prostration, but at the beginning, the patients are generally in very high spirit and have no trouble to work. We shall be able to cure them while they are working by a suitable mental guidance.

IV. Summary.

We have herewith devised the countermeasures against the chronic diarrhoea aiming at the fact that special attention is requested to be paid for their alimentation, considering that they are mainly employed in the productive area in the domestic front with the gradual increase of the number of the POWs nowadays. The causes of this disease should be in the ordinary days, attributed to the infectious intestinal disease. In the cases of POWs, however, infectious diarrhoea occupies only 10 percent of all patients of diarrhoea and their majority are of food deficiencies and non-typical diarrhoea which occupy about 90% of all cases. So the first counter-measure against the diarrhoea is to enforce strict feces-examination and quickly to isolate the germ-carriers.

The next step is to classify all non-germ-carrying diarrhoea patients roughly into two kinds of food deficient diarrhoea and non-typical diarrhoea. In the case of the former, the deliberate attention shall be paid for their diet alongside with the pharmacotherapy, picking up the serious ones in the infirmary to give treatment for rather longer time. In the case of the latter, however, the sufferers are not necessarily to be treated as patients. Some times we can employ them in works with no fear, paying special attention for their mental consolation with due consideration for their adaptability to the foreign climate and weather, and their individual physical constitution, custom and taste. It is needless, however, to mention that the long POW life often incurs the hypochondria and hysteria necessitating to send them to the infirmary.

V. Conclusion.

(1) The POWs are apt to suffer from the chronic diarrhoea and we sometimes found that about 80% of all inmates at the beginning of the captivity on the field, and about 50% of them in Japan proper afflicted with the disease.

(2) Most of the POW patients suffer from the chronic diarrhoea concurrently and the examination in September, the 19th Year (of Showa) showed that the percentage of the diarrhoea to all patients was about 80%. Since May, the 19th Year of Showa, however, an attempt to improve the diet has been made in the Osaka Concentration Camp and as the result the percentage of the chronic diarrhoea showed a tendency to consider decrease considerably...

(3) Only 10% of the chronic diarrhoea cases among the POWs are found to be attributable to the infectious intestinal diseases.

(4) It would be premature to attribute all cases of the chronic diarrhoea among the POWs to the food deficiency, though they are largely caused by food deficiency (nutrition deficiency)

(5) We could often clinically detect the non-typical case of chronic diarrhoea among the POW patients. These were peculiar to them and amounted to 20% all diarrhoea cases.

(6) The countermeasures taken by sanitary officers in treating the chronic diarrhoea among the POWs may be summarized as follows:

(a) Strictly examination of faeces and the speedy isolation of the germ-carrier.

(b) The classification of all diarrhoea patients other than the germ-carriers into two classes of those due to food deficiency and those who suffer from non-typical diarrhoea, and then establish the respective means of treatment for each.

(c) In the cases of food-deficient diarrhoea, the taking care of the diet and employment of the pharmacotherapy concurrently and even when complication was detected attention was always paid

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to the principal disease.

(4). In the case of non-typical diarrhoea, sensible treatment was taken and for the slighter ones mental induction was requested to be applied in order to let the patient willingly set to work.

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Certificate of Authenticity

I hereby certify that the printed matter hereto
attached is the thesis compiled and published by me.

Certified at the National Hospital,
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WAKAYAMA Prefecture.

June, 1947.

/s/ OHASHI, Hyojiro (seal)