

## Clinical Patterns of Famine Deaths

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**Received:** December 13, 2019; **Published:** December 30, 2019

### Abstract

This paper describes the clinical patterns of famine deaths for medical purpose without laboratory aids. The observation subjects were 150 vulnerable arduous laborers from a sub unit of a huge Labor Farm 1960 - 1962. They were aged, weak, sick or disabled persons and lived in two large thatched houses for daily checkup. Food supply was only 2/5 of their original allocations. Practically, medicine was minimal. Essentially, therapy were regulated and punctuated sleep and home made yeast liquid fermented with crude sugar extracted from beet they produced. Crude beet sugar was not counted as cereals, therefore, the director of this sub unit kindly permitted to use. This humble liquid had saved many victims. From December 1950 until May 1962, only 17 individuals died while other sub units without it, the deaths counted about 250 - 450 per thousand or much more.

Dying process might be silent, troublesome or horrible even to the medical staffs. A comatose patient with fulminating febrile pneumonia was surprisingly saved with intravenous thiamine 100 mg. This experience was confirmed in another patient with fulminating febrile, viral pneumonia and 3 thrombotic leg veins from a university hospital in Tianjin, 2016.

**Keywords:** *Anasarca; Hepatic atrophy; Marasmus; Thiamine; Wotou*

### Introduction

According to Cereal Allocation Law, (1955 - 1995 in China) the allocated cereal amount for laborers in a labor farm was 28 kg per month, nearly 2 times for regular adult citizens [1]. After a period of labor practice, the allocation for each laborer was re-classified into 5 grades in the numbers of wotous, a traditional Chinese corn bread cooked without fermentation as in the following (Figure 1).

The 5 grades were 6.5, 8, 9, 10, or 12 pieces a day for an individual with a median number of 9 wotous for the majority until released. These 9 wotous in daily rations were divided into 3 meals:

1. Breakfast: 3 wotous, one became a bowl of corn gruel with some salt-pickled vegetables.
2. Lunch: 4 wotous, a large bowl of cooked Chinese cabbage or other legume, and hot water.
3. Dinner: 1 wotou and 1 bowl of corn gruel and salt-pickled vegetables.

Every slavery laborer felt hungry immediately after each meal. Therefore, multiple bizarre clinical phenomena ensued sooner or later.

At the end of November 1960, the authority announced that "extremely severe and heavy natural calamity never met within hundred years ravages the whole country". Cereal allocation was reduced for everybody nationwide. The slavery laborers' food was then drastically



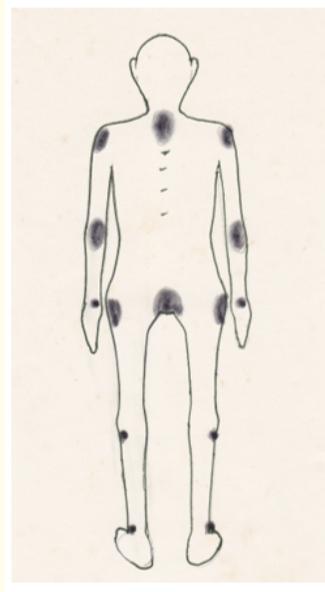
**Figure 1:** Wotou, a traditional regular daily food in north China.

reduced to 2/5 of their original. The laborer with daily 9 wotous received only about three pieces. Hunger sadism began nationwide. In the labor Farm, it was severe from December 1960 to May 1961 because food must be added gradually for farming. The 8<sup>th</sup> sub unit staffs quickly gathered 150 vulnerable laborers into two large thatched houses for daily medical observation. They were aged, weak, sick or disabled persons, actually candidates of famine deaths. Medicine was minimal. Practically, therapy were ordered and punctuated sleep and home made yeast liquid fermented with crude sugar extracted from beet they produced. Crude beet sugar was not classified as cereals, therefore, the director of this sub unit kindly permitted to use. This humble liquid of 100 - 200 ml a day had saved many miserable lives. From December 1960 until May 1962, 17 laborers died from this 8<sup>th</sup> sub unit, while other units without it, the deaths counted about 250 - 450 per thousand or much more.

### Prediction signs of famine death

The exact date and time of expiration for an individual under famine was difficult to predict. However, anybody with one of the following manifestations would be doomed to die within a few weeks or days:

- a. Corpse-like face.
- b. Severe anasarca: Checking the thigh of a victim in the supine position with a hand flash, if the translucent lower portion occupied one third of the thigh, death would ensue very soon.
- c. Bony marasmus with anal retraction toward the abdomen for about 4 cm in depth.
- d. Bony marasmus with multiple brownish pigmentation over the skin covering protruding bones, including the olecranon of the elbow, the spine of the seventh cervical vertebra, the great trochanter of the femur, the lateral malleoli of the ankle, the tip of coccyx, the head of the humerus, the styloid process of the ulna, the head of the fibula near the knee as seen in the following picture.
- e. Severe anemia with colorless eyelid conjunctiva.
- f. Sudden loss of appetite after prolonged wolf hunger.



**Figure 2:** Locations of skin pigmentation in severe hunger.

### Clinical patterns of famine deaths

**Cardiac arrest:** It was sudden without warning sign and constituted about 50% of famine deaths.

- a. Three cases died immediately after rising from squatting position in the shiholes. They fallen down with the head knocked the ground.
- b. A young laborer was playing chess with another after dinner. Simultaneity, while he shouted a chess password his head dropped backward and died before returning the chess piece.
- c. About 20 days after drastic reduction of food, a slavery engineer fell in coma [2]. His breath, pulse, heartbeat and blood pressure became undetectable, probably in the ventricular fibrillation status. However, he continued slurring "I want to eat Peking duck" faintly, and fainter gradually for 2 hours before eternal silence. There was nothing and no way to save although one injection of thiamine 100 mg could be effective. The silence was immediately followed by the generalized contraction of the entire facial expression muscles. Medical personnel is familiar with facial expression muscles anatomy, however, the very fine spasmodic fibrilliform wrinkles formed by such horrible contraction might be never seen or heard. Surely, it induced theological imagination.
- d. A middle aged slavery laborer from another sub unit was heard died and placed into a coffin with removable bottom plate for bury. When the plate was removed, the "died" was dropped into the empty space of the grave. Surprisingly, a voice of "aiyao" was heard. He was saved by the strong impact to the heart during falling down something like electricity stimulation in the emergent rescue. It was not occurred in the 8<sup>th</sup> sub-unit.

**General convulsion:** It was rarely reported. About one third of the famine victims died of general convulsion although no previous seizure-like attack had been experienced in their past.

- a. Two aged laborers were found in convulsive status for a few minutes when getting up without any inducing factor.

- b. Another one was 50 years old with wolf hunger. He was lying down all the day to minimize body energy consumption. In a morning, he refused to eat and his oral muscle moved irregularly. The doctor immediately inserted a mouth opener to prevent biting the tongue. When the opener passed his front teeth, his mouth suddenly closed very forcibly and bent his teeth. A severe and violent seizure was then followed for about ten minutes and died.

**Infection:** Winter temperature in that area was -20°C to -30°C. It was very likely to have respiratory infection.

- a. The first emergency case was Mr. LI, SJ of 32 years old. On Dec 5, 1960 [3]. He violated the camp regulation by secretly going out for fishing, and was punished by putting into confinement and reducing food by half. He experienced increasing weakness, palpitation, shortness of breaths, and severe swelling of his legs. His temperature rose abruptly between 39°C and 40.0°C and was associated with severe headache, nausea, and vomiting. Only APC 0.42 three times a day. In the afternoon of December 11 1960 he was in deep coma. Body temperature was 40.2°C with BP 60/30 mm Hg, and cardiac bigeminy. Both lungs were very noisy with coarse crepitation and rales. No antibiotics were available and intravenous thiamine 100 mg in 50% glucose 60 ml was injected promptly. Surprisingly, about two hours later, his temperature and heartbeats returned normal, BP 90/60 mm Hg, pulmonary crepitation and rales disappeared, he regained consciousness, and recovered from pneumonia. Then, he was transferred to the vulnerable group with home made liquid yeast and occasional VB1 tablets. This patient survived and unforgettable for the medical personals.
- b. After a few days of the above case, a 24 years old laborer was found with fever of 38°C and a few of fine rales were detected at the lower portion of his left lung. Penicillin G was available and 600,000 IU was injected every 6 hours with an initial double dosage. However, no thiamine, his lung rales extended rapidly over the both lung fields and died within 24 hours due to severe dyspnea.
- c. In a case with liver involvement was found at February 1961. There were jaundice, ascites, and engorged abdominal veins. He was considered to be hepatitis. However, the rapid course and an unusual special order was sensed to be hepatic yellow atrophy. Yeast liquid was given 100 ml thrice a day but failed shortly.

**Intestinal perforation:** After introducing the so-called “constitute food”, which was a mixture of regular corn flour and finely ground awn, chaff, husk, or withered leaves, the common complaint was not diarrhea but constipation. The jumbled mass of feces had to be digitally removed because the intestine became very thin. Intestinal perforation was found in one case.

### Discussion

1. The number of famine deaths is a top national secret. According to personal communication with the former director of the camp clinic, the deaths of 8<sup>th</sup> sub-unit was exceedingly lower than other units due to using home made liquid yeast.
2. The laborer with fatal infection and saved with intravenous thiamine 100 mg became a suggestion of saving life for a critical patient with fulminating high fever pneumonia from a university hospital in Tianjin China, 2016. Large dose of thiamine therapy cured her severe viral pneumonia with 3 thrombotic leg veins. Hence, it is reasonable to suggest that parenteral thiamine may be a super antibiotic [4].
3. Cardiac problem was the number one cause of death and could be very effectively to save with thiamine. An injection of trace amount of thiamine had increase the heartbeats from 18 to 50 within an hour.  
Sudden change of body posture from squatting to stand up should be avoided or carefully helped.
4. General convulsion is a great hazard to the starved. It might be resulted from increased permeability of cerebral blood vessels. Proteins or other large molecules contacted the brain cells and caused seizure.

### Conclusion

Medical information from the deceased is the truth and they are heartily respected.

### Disclosure

No conflict of interest to anybody.

### Acknowledgement

The authors are very grateful to the Editors and Publishers for wavier the publication charges.

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**Volume 7 Issue 1 January 2020**

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