

# Did Buddha die of mesenteric infarction?

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## **Ancient texts weave two stories about the Lord Buddha's death. Was it planned and willed by the Buddha, or was it food poisoning, or something else altogether?**

The Mahaparinibbana Sutta, from the Long Discourse of Pali Tipitaka, is without doubt the most reliable source for details on the death of Siddhattha Gotama (BCE 563-483), the Lord Buddha. It is composed in a narrative style that allows readers to follow the story of the last days of the Buddha, beginning a few months before he died. To understand what really happened to the Buddha is not a simple matter, though.

The sutta, or discourse, paints two conflicting personalities of the Buddha, one overriding the other. The first personality was that of a miracle worker who beamed himself and his entourage of monks across the Ganges River (D II, 89), who had a divine vision of the settlement of gods on earth (D II, 87), who could live until the end of the world on condition that someone invite him to do so (D II, 103), who determined the time of his own death (D II, 105), and whose death was glorified by the shower of heavenly flowers and sandal powder and divine music (D II, 138).

The other personality was that of an old man, who grumbled about his failing health and growing senility (D II, 120), who almost lost his life because of a severe pain during his last retreat at Vesali (D II, 100), and who was forced to come to terms with his unexpected illness and death after consuming a special cuisine offered by his generous host. These two personalities take turns emerging in different parts of the narrative. Moreover, there also appear to be two explanations of the Buddha's cause of death: One is that the Buddha died because his attendant, Ananda, failed to invite him to live on to the age of the world or even longer (D II, 117). The other is that he died by a sudden illness which began after he ate what is known as "Sukaramaddava" (D II, 127-157).

The former story was probably a legend, or the result of a political struggle within the Buddhist community during a stage of transition, whereas the latter sounds more realistic and accurate in describing a real life situation that happened in the Buddha's last days. A number of studies have focused on the nature of the special cuisine that the Buddha ate during his last meal as being the agent of his death. However, there is also another approach based on the description of the symptoms and signs given in the sutta, which modern medical knowledge can shed light on. In another mural painting at Wat Ratchasittharam, the Lord Buddha is approaching death, but he still takes time to answer questions put forth by the ascetic Subhadda, his last convert who, after being admitted to the Buddhist Order, became an arahant (enlightened monk).

## 1. What we know

In the Mahaparinibbana Sutta, we are told that the Buddha became ill suddenly after he ate a special delicacy, Sukaramaddava, literally translated as "soft pork", which had been prepared by his generous host, Cunda Kammaraputta.

The name of the cuisine has attracted the attention of many scholars, and it has been the focus of academic research on the nature of the meal or ingredients used in the cooking of this special dish. The sutta itself provides details concerning the signs and symptoms of his illness in addition to some reliable information about his circumstances over the previous four months, and these details are also medically significant. The sutta begins with King Ajatasattus' plot to conquer a rival state, Vajji. The Buddha had journeyed to Vajji to enter his last rainy- season retreat. It was during this retreat that he fell ill. The symptoms of the illness were sudden, severe pain. However, the sutta provides no description of the location and character of his pain. It mentions his illness briefly, and says that the pain was intense, and almost killed him.

Subsequently, the Buddha was visited by Mara, the God of Death, who invited him to pass away. The Buddha did not accept the invitation right away. It was only after Ananda, his attendant, failed to recognise his hint for an invitation to remain that he died. This piece of the message, though tied up with myth and supernaturalism, gives us some medically significant information. When the sutta was composed, its author was under the impression that the Buddha died, not because of the food he ate, but because he already had an underlying illness that was serious and acute-and had the same symptoms of the disease that finally killed him.

## 2. The Timing

Theravada Buddhist tradition has adhered to the assumption that the historical Buddha passed away during the night of the full moon in the lunar month of Visakha (which falls sometime in May to June). But the timing contradicts information given in the sutta, which states clearly that the Buddha died soon after the rainy-season retreat, most likely during the autumn or mid-winter, that is, November to January.

A description of the miracle of the unseasonal blooming of leaves and flowers on the sala trees, when the Buddha was laid down between them, indicates the time frame given in the sutta. Autumn and winter, however, are seasons that are not favourable for the growth of mushrooms, which some scholars believe to be the source of the poison that the Buddha ate during his last meal.

## 3. Diagnosis

The sutta tells us that the Buddha felt ill immediately after eating the Sukaramaddava. Since we do not know anything about the nature of this food, it is difficult to name it as the direct cause of the Buddha's illness. But from the descriptions given, the onset of the illness was quick. While eating, he felt there was something wrong with the food and he suggested his host have the food buried. Soon afterward, he suffered severe stomach pain and passed blood from his rectum. We can reasonably assume that the illness started while he was having his meal, making him think there was something wrong with the unfamiliar delicacy. Out of his compassion for others, he had it buried. Was food poisoning the cause of the illness? It seems unlikely. The symptoms described do not indicate food poisoning, which can be very acute, but would hardly cause diarrhoea with blood.

Usually, food poisoning caused by bacteria does not manifest itself immediately, but takes an incubation period of two to 12 hours to manifest itself, normally with acute diarrhoea and vomiting, but not the passage of blood. Another possibility is chemical poisoning, which also has an immediate effect, but it is unusual for chemical poisoning to cause severe intestinal bleeding. Food poisoning with immediate

intestinal bleeding could only have been caused by corrosive chemicals such as strong acids, which can easily lead to immediate illness. But corrosive chemicals should have caused bleeding in the upper intestinal tract, leading to vomiting blood. None of these severe signs are mentioned in the text.

Peptic ulcer diseases can be excluded from the list of possible illnesses as well. In spite of the fact that their onset is immediate, they are seldom accompanied by bloody stool. A gastric ulcer with intestinal bleeding produces black stool when the ulcer penetrates a blood vessel. An ulcer higher up in the digestive tract would be more likely to manifest itself as bloody vomiting, not a passage of blood through the rectum.

Other evidence against this possibility is that a patient with a large gastric ulcer usually does not have an appetite. By accepting the invitation for lunch with the host, we can assume that the Buddha felt as healthy as any man in his early 80s would feel. Given his age we cannot rule out that the Buddha did not have a chronic disease, such as cancer or tuberculosis or a tropical infection such as dysentery or typhoid, which could have been quite common in the Buddha's time. These diseases could produce bleeding of the lower intestine, depending on their location. They also agree with the history of his earlier illness during the retreat. But they can be ruled out, since they are usually accompanied by other symptoms, such as lethargy, loss of appetite, weight loss, growth or mass in the abdomen. None of these symptoms were mentioned in the sutta. A large haemorrhoid can cause severe rectal bleeding, but it is unlikely that a haemorrhoid could cause severe abdominal pain unless it is strangulated. But then it would have greatly disturbed the walking of the Buddha to the house of his host, and rarely is haemorrhoid bleeding triggered by a meal.

#### 4. Mesenteric infarction

A disease that matches the described symptoms-accompanied by acute abdominal pain and the passage of blood, commonly found among elderly people, and triggered by a meal-is mesenteric infarction, caused by an obstruction of the blood vessels of the mesentery. It is lethal. Acute mesenteric ischaemia (a reduction in the blood supply to the mesentery) is a grave condition with a high rate of mortality. The mesentery is a part of the intestinal wall that binds the whole intestinal tract to the abdominal cavity.

An infarction of the vessels of the mesentery normally causes the death of the tissue in a large section of the intestinal tract, which results in a laceration of the intestinal wall. This normally produces severe pain in the abdomen and the passage of blood. The patient usually dies of acute blood loss. This condition matches the information given in the sutta. It is also confirmed later when the Buddha asked Ananda to fetch some water for him to drink, indicating intense thirst. As the story goes, Ananda refused, as he saw no source for clean water. He argued with the Buddha that the nearby stream had been muddied by a large caravan of carts. But the Buddha insisted he fetch water anyway.

A question arises at this point: Why did the Buddha not go to the water himself, instead of pressing his unwilling attendant to do so? The answer is simple. The Buddha was suffering from shock caused by severe blood loss. He could no longer walk, and from then to his death bed he was most likely carried on a stretcher. If this was indeed the situation, the sutta remains silent about the Buddha's travelling to his deathbed, possibly because the author felt that it would be an embarrassment for the Buddha.

Geographically, we know that the distance between the place believed to be the house of Cunda and the place where the Buddha died was about 15 to 20 kilometres. It is not possible for a patient with such a grave illness to walk such a distance. More likely, what happened was that the Buddha was carried on a stretcher by a group of monks to Kusinara (Kushinagara). It remains a point of debate whether the Buddha really determined to pass away at this city, presumably not much larger than a town. From the direction of the Buddha's journey, given in the sutta, he was moving north from Rajagaha. It is possible that he did not intend to die there, but in the town where he was born, which

would have taken a period of three months to reach. From the sutta, it is clear that the Buddha was not anticipating his sudden illness, or else he would not have accepted the invitation of his host. Kusinara was probably the nearest town where he could find a doctor to take care of him. It is not difficult to see a group of monks hurriedly carrying the Buddha on a stretcher to the nearest town to save his life. Before passing away, the Buddha told Ananda that Cunda was not to be blamed and that his death was not caused by eating Sukaramaddava.

The statement is significant. The meal was not the direct cause of his death. The Buddha knew that the symptom was a repeat of an experience he'd had a few months earlier, the one which had almost killed him. Sukaramaddava, no matter the ingredients or how it was cooked, was not the direct cause of his sudden illness.

### 5. Progression of the disease

Mesenteric infarction is a disease commonly found among elderly people, caused by the obstruction of the main artery that supplies the middle section of the bowel-the small intestine-with blood. The most common cause of the obstruction is the degeneration of the wall of the blood vessel, the superior mesenteric artery, causing severe abdominal pain, also known as abdominal angina. Normally, the pain is triggered by a large meal, which requires a higher flow of blood to the digestive tract.

As the obstruction persists, the bowel is deprived of its blood supply, which subsequently leads to an infarction, or gangrene, of a section of the intestinal tract. This in turn results in a laceration of the intestinal wall, profuse bleeding into the intestinal tract, and then bloody diarrhoea. The disease gets worse as the liquid and content of the intestine oozes out into the peritoneal cavity, causing peritonitis or inflammation of the abdominal walls. This is already a lethal condition for the patient, who often dies due to the loss of blood and other fluid. If it is not corrected by surgery, the disease often progresses to septic shock due to bacterial toxins infiltrating the blood stream.

### 6. Retrospective analysis

From the diagnosis given above, we can be rather certain that the Buddha suffered from mesenteric infarction caused by an occlusion of the superior mesenteric artery. This was the cause of the pain that almost killed him a few months earlier during his last rainy-season retreat. With the progress of the illness, some of the mucosal lining of his intestine sloughed off, and this site became the origin of the bleeding. Arteriosclerosis, the hardening of the vessel wall caused by ageing, was the cause of the arterial occlusion, a small blockage that did not result in bloody diarrhoea, but is a symptom, also known to us as abdominal angina. He had his second attack while he was eating the Sukaramaddava.

The pain was probably not intense in the beginning, but made him feel that there was something wrong. Suspicious about the nature of the food, he asked his host to have it all buried, so that others might not suffer from it. Soon, the Buddha realised that the illness was serious, with the passage of blood and more severe pain in his abdomen. Due to the loss of blood, he went into shock. The degree of dehydration was so severe that he could not maintain himself any longer and he had to take shelter at a tree along the way.

Feeling very thirsty and exhausted, he got Ananda to collect water for him to drink, even though he knew that the water was muddied. It was there that he collapsed until his entourage carried him to the nearest town, Kusinara, where there would have been a chance of finding a doctor or lodging for him to recover in. It was probably true that the Buddha got better after drinking to replace his fluid loss, and resting on the stretcher.

The experience with the symptoms told him that his sudden illness was the second attack of an existing disease. He told Ananda that the meal was not the cause of his illness, and that Cunda was not to

blame. A patient with shock, dehydration and profuse blood loss usually feels very cold. This was the reason why he told his attendant to prepare a bed using four sheets of ifsanghati nf. According to Buddhist monastic discipline, a ifsanghatinfis a cloak, or extra piece of robe, very large, the size of a bed sheet, which the Buddha allowed monks and nuns to wear in winter. This information reflects how cold the Buddha felt because of his loss of blood. Clinically, it is not possible for a patient who is in a state of shock with severe abdominal pain, most likely peritonitis, pale and shivering, to be ambulatory. The Buddha was most likely put into a lodging, where he was nursed and warmed, located in the city of Kusinara.

This view is also confirmed with the description of Ananda who, weeping, swoons and holds onto the door of his lodge after learning that the Buddha was about to pass away. Normally, a patient with mesenteric infarction could live 10 to 20 hours. From the sutta we learn that the Buddha died about 15 to 18 hours after the attack. During that time, his attendants would have tried their best to comfort him, for example, by warming the room where he was resting, or by dripping some water into his mouth to quench his lingering thirst, or by giving him some herbal drinks. But it would be highly unlikely that a shivering patient would need someone to fan him as is described in the sutta. Off and on, he may have recovered from a state of exhaustion, allowing him to continue his dialogues with a few people. Most of his last words could have been true, and they were memorised by generations of monks until they were transcribed. But finally, late into the night, the Buddha died during a second wave of septic shock. His illness stemmed from natural causes coupled with his age, just as it would for anyone else.

## 7. Conclusion

The hypothesis outlined above explains several scenes in the narrative of the sutta, namely, the pressing of Ananda to fetch water, the Buddha's request for a fourfold cloak for his bed, the ordering of the meal to be buried, and so on. It also reveals another possibility of the actual means of transportation of the Buddha to Kusinara and the site of his death bed. Sukaramaddava, whatever its nature, was unlikely to have been the direct cause of his illness. The Buddha did not die by food poisoning. Rather, it was the size of the meal, relatively too large for his already troubled digestive tract, that triggered the second attack of mesenteric infarction that brought an end to his life.

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