

Keep calm in an emergency: an unexpected case with poisoning

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It was 11:40 pm and I was on the night shift in the emergency room when I received a call from the front desk: “Get ready; a patient with palpitations and sweating is on his way”.

The call was about a 28-year-old man who was transferred in an ambulance to the Accident & Emergency department (A&E).

The patient experienced sudden episodes of palpitation and sweating without an obvious cause, 2 hours earlier. He declined other symptoms as dizziness, headache, stomach ache, diarrhea or bleeding. His family called the ambulance when they saw he was unwell.

His initial examination and observation tests including oxygen saturation and ECG monitoring were unremarkable. He was transferred to the medical assessment unit (MAU).

In such cases, doctors should respond quickly in three aspects: ask quickly, diagnose quickly, and treat quickly.

The patient developed shortness of breath and had sudden drop of his O₂ saturation levels a bit later. “Tube now!” I said to the nurse by my side who quickly brought the intubation tools. I managed to advance the tracheal catheter with the help of the laryngoscope. When he was connected with a ventilator, his O₂ sat levels increased to 98%.

Why did the patient progress so quickly within 5 min? His family members asked the question anxiously. Some had already been crying. This put even more pressure on me and I tried hard to seem calm.

Truth was, my heart sank!

I knew that if the family felt I had no idea about what to do, they would be upset and, to make it worse, lose trust in the team. Any attempt for diagnosis and further treatment would become even more challenging.

The rule of thumb in the emergency department is: “shoot first, ask later”.

The priority was to keep the vital signs stable, and try to make a clear diagnosis later. With that in mind, I calmed

myself, examined him for the second time. I noticed that his pupils were narrowed to pin size. It was exciting to find the important vital sign.

And the brainstorming started. Morphine, barbiturates, organophosphorus pesticide poisoning could be the cause. Obviously, cardiac and cerebrovascular events had to be excluded. The patient had no fever or neck stiffness, therefore I excluded CNS infection. Acute organophosphorus poisoning was my working diagnosis based on the main symptoms and findings so far. I asked his family whether he had any contact with pesticide or take pesticide by mistake. “*Certainly not*”, was the answer, “*he is too busy with his job. He would have no chance to access pesticide*”.

“Did he have quarrel with the family or have a bad mood?” I asked again.

The family seemed confused and said, “*No, he is cheerful and optimistic. He is the family main provider. There were no incidents between him and his family or his colleagues. It is not like him to buy pesticide to commit suicide*”.

The patient was in a coma and unable to provide any history. Still, acute organophosphorus pesticide poisoning seemed the most likely diagnosis.

“Maybe his lifestyle and dietary pattern will offer a key clue,” I thought to myself, “Is there any problem with his diet”, I asked.

One of the family members stopped crying and said, “*Not at all. He eats at his company’s restaurant during the day. And we all eat the same food at home*”. This made me think about the possibility of being poisoned by others. If that was true, it would be a criminal case.

At that moment, the family member thought again and said, “*He ate a lot of longans at noon. Does it matter?*”.

“Yes. Did he bite off the fruit skin or did he peel it with his hands?” I asked. “*He ate them with the skin*”, he answered.

The clue for the diagnosis became apparent. Hastily,

we performed gastric lavage and catharsis, and sent gastric fluids' specimen to the poisoning identification center.

Waiting for the test result seemed like a long time. The air in MAU was stale and made us nervous. At that time, I was sure that the levels of adrenaline in my body were sky high! The family members felt helpless and cried constantly. Eventually, the patient's vital signs were stabilized. But I couldn't relax. After all, we did not have a definitive diagnosis, so the treatment remained uncertain.

After an hour the technician in the laboratory department reported the life-threatening value: the level of cholinesterase in his body was only 20% of the normal range. It was definitely organophosphorus poisoning. Which type of organophosphorus was still unknown. Two hours later the poisoning identification center reported evidence of phorate poisoning. It dawned on me that the patient may have eaten longans sprayed with pesticides just before being picked! In this case the poison was absorbed by the digestive system. It might be the only explanation. I shared the information with the family who understood and cooperated with us.

We immediately contacted with the center of hemodialysis. Pralidoxime chloride and penicyclidine were administered and he was transferred to EICU.

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Author's Note: after 1 week of intensive treatment, the patient recovered and was discharged home.

I still feel stressed when I look back!

He had progressed quickly and could not provide medical history since he lost conscience. The patient was poisoned with organophosphorus pesticide via indirect contact with the fruit he ate. The diagnosis was difficult and challenging for the A&E doctors. What's noteworthy during the medical history inquiry was the way that the patient ate fruits. When he bit off the fruit skin, the pesticide residue on the fruit skin would easily be absorbed by the skin mucus.

We learned a lot from this case. When patients are stable, we need to enquire about the medical history, examine them frequently, and monitor the condition which will lead to the diagnosis. If we are stuck in a dead end, we should calm down and keep in mind that important clues may surface at a critical moment. We should believe that we will figure out a way to save patients' lives. And we will manage to do that together with the patients and their families.

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