

Deadly Umbrella Attack



Where: London, UK
 When: September 7, 1978
 Culprits: Bulgarian assassins
 Victim: Georgi Markov
 Cause of death: ricin poisoning
 Forensic technique: toxicology

The Crime

During the Cold War years, many dissidents from the Soviet Eastern European satellites found an apparently safe refuge in London. Some lived a quiet life in the West, but there were others who took a much more active role against their former masters. One of these was Georgi Markov, a Bulgarian who worked for the BBC World Service, broadcasting to his former homeland.

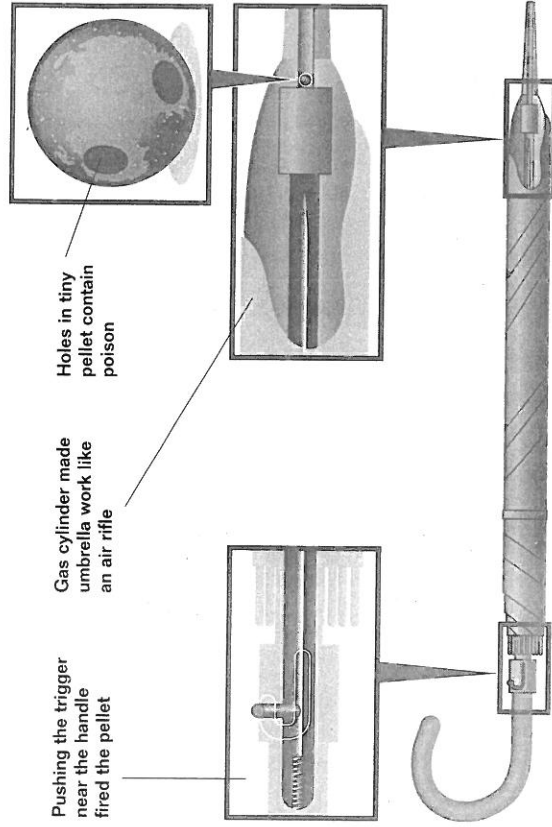
On the afternoon of Thursday September 7, 1978, Markov was waiting at a bus stop on Waterloo Bridge on the first stage of the routine journey back to his flat. He felt a sudden stabbing pain in his right leg, and turned round to see that he had been jabbed by the end of a furlled umbrella carried by a passer-by. The man mumbled an apology, and rushed on to wave down a taxi.

When Markov reached his flat, he took a closer look at the site of the pain and found a small red puncture mark in the skin of his leg. Thinking it would soon disappear, he went to bed unconcerned by the mark. But by the following day, he was violently sick and his temperature had risen sharply. He was taken to hospital, where his now inflamed wound was X-rayed, and he was kept under observation.

The X-ray plates showed no signs of anything to account for his illness, but his condition rapidly deteriorated. His pulse was racing as his blood pressure plummeted. His temperature fell, but his white blood-cell count rose far above normal levels, and the doctors concluded he might be suffering from blood poisoning. He was given antibiotics, but before they could have any effect, he suffered severe convulsions. He sank into delirium and within three days he was dead.

The Case

Markov's body was given a detailed post-mortem examination, which revealed a tiny spherical pellet, only a millimeter or so across, buried beneath the skin. It had two very small holes drilled in it, but no sign remained of what it might have contained. The pellet was then sent to the Metropolitan Police forensic laboratory where it was analyzed and found to consist of an extremely tough alloy of platinum and iridium which would not show up under X-rays. It was probable that the holes in the pellet had held a very small amount of poison, but no trace remained. On the other hand, to produce such a violent and lethal reaction suggested this must have been something like a nerve agent, and that the pellet itself had been fired into the victim's leg by a gas gun hidden within the furlled umbrella.



Above Possible mechanisms of the umbrella gun that is suspected to have shot the pellet containing deadly ricin into Markov's leg.

Part One: Cause of Death

The Evidence

The sophistication of the method and the poison used suggested, it was intelligence agents who were responsible, rather than criminal or terrorist groups. The most likely poison was thought to be ricin, developed from the seeds of the castor oil plant. On entering the bloodstream it causes the red corpuscles to mass together and then attacks the other body cells, producing vomiting and high temperature followed by falling blood pressure and eventually death from heart failure.

But could the microscopic dose of ricin contained in the pellet cause death so quickly? In the absence of any other proof, forensic experts carried out a comparison test. They injected a pig of similar size and weight to a mature human being, with the amount of ricin which could have been contained within the holes in the pellet. Not only did the pig die within 24 hours, but the symptoms and organ damage that it suffered were similar to those experienced by Markov.

The Outcome

Suspicion pointed directly at the Bulgarian regime, which issued firm official denials. However, another Bulgarian dissident, Vladimir Kostov, had suffered a similar attack in Paris the year before. In his case, an identical pellet had been fired into his back where it lodged in the muscle tissues, but failed to penetrate any of the main blood vessels, so he survived the attack. But the final outcome of the story had to wait for the fall of the Communist regime in Bulgaria in 1991, and admissions by the new rulers that their predecessors had commissioned and carried out assassination attempts against dissidents living in the West, including both Kostov and Markov.

1. Get a ruler with metric measurements.
Draw a circle/sphere – a pellet – that is “a millimeter or so across.”
2. Explain why no trace remained on the pellet in this case.
3. Where does ricin come from?
4. In a few sentences, explain what investigators did with a pig to help them understand what happened in this case.