



Life and death at Wuhan’s Jinyintan Hospital

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From the very beginning, the Jinyintan Hospital in Wuhan, one of the city's designated hospitals to treat patients infected with the novel coronavirus, has been at the frontline of the battle against the COVID-19 outbreak.

The hospital is much quieter now. Passers-by can from time to time hear birds chirping in the quiet woods of its courtyard. But the serenity belies the turmoil it went through as the storm center of a gathering health crisis.

A strange disease

Near the end of 2019, a group of strange patients were admitted to Jinyintan's ICU wards.

They suffered severe pneumonia and had fever, cough, and dyspnea. They laid on the bed, breathing heavily. It was winter, usually Wuhan's flu season, but doctors could not find the exact cause of their suffering. CT scans showed that many had large white abnormalities in their lungs.

Ambulances continued to arrive, transporting similar patients from other local hospitals to Jinyintan, the most qualified in the city to deal with contagious diseases. The situation was evocative of the SARS outbreak 17 years ago, and there was a palpable sense of tension and fear among the wards.

On the last day of 2019, the National Health Commission sent a working group and an expert group to Wuhan, who after many field visits and examinations of the patients came to the conclusion that this was a typical viral pneumonia.

But of what virus was still unknown.

The first mortality came on Jan 6, a chilly day with light rain. Outside an ICU ward, doctors and medical experts – Cao Bin, vice president of the Beijing-based China-Japan Friendship Hospital and a member of the expert group, Jinyintan's vice president Huang Chaolin and its ICU director Wu Wenjuan – talked with the bereaved family for nearly an hour and tried to get their permission for an autopsy, in vain.

"We were desperate to find out the pathophysiological characteristics and patterns," said Cao. "Only with scientific guidance can we save lives more effectively."

Finally a clue

On Dec 27, 2019, Jinyintan's Huang received a call from a local general hospital, requesting to transfer a patient to Jinyintan. During the phone call, Huang learned that a third-party genetic testing company had detected coronavirus RNA in the patient's sample.

Two days later, Huang was called in for consultation at another local general hospital. He soon realized whatever it was that the seven patients were suffering from, it could be contagious, and they must be immediately transferred to Jinyintan. The general hospital couldn't handle it.

Staff put on full protective gear inside the specially arranged negative pressure ambulances. The transfer began in the early evening that day, and lasted until late night.

"Jinyintan is an infectious disease hospital. Our experience ensures that we have strong vigilance," said Zhang Dingyu, the president of Jinyintan Hospital and Huang’s superior.

A first batch of samples from these seven patients found no known pathogens. A second batch of samples, of alveolar lavage fluid, were collected and sent out for more testing.

On Jan 3, four elite Chinese medical institutes – the China Centers for Disease Control and Prevention, the Chinese Academy of Medical Sciences, the Wuhan Institute of Virology of the Chinese Academy of Sciences, and the Academy of Military Medical Sciences – conducted an unprecedented parallel testing of the samples from Jinyintan.

On Jan 12, they finally had a tentative answer. The hitherto unknown disease was named “novel coronavirus pneumonia,” known later as COVID-19.

By mid-January, the situation had worsened. Jinyintan had admitted more than 100 COVID-19 patients, filling its ICU wards to the brim.

Huang falls sick

What impressed Huang Chaolin most about the disease was how the patients' conditions could deteriorate in a short time. He remembered well the first patient they put on ECMO life support (Extracorporeal Membrane Oxygenation) whose condition continued to worsen despite their all-out efforts.

"It had little effect," Huang recalled. "We used a hemofiltration machine and ventilator, yet the patient's blood oxygen level kept dropping."

The rescue of that patient kept Huang and his team busy from night to early morning. After taking off his protective clothing, he was soaked in sweat from exhaustion.

On the evening of Jan 10, Huang finished his ward duty and was on his way to return to his office, his mask off. Out of nowhere came two people – a patient’s children it turned out – clutching Huang’s hands and begging him to save their mother's live. Three days later, they were confirmed to be COVID-19 patients.

A week later, Huang fell sick. His nucleic acid test was positive, and a CT scan showed the typical abnormality, large whitish shadows in both lungs.

The doctor had now become a patient. Huang's blood oxygen level read only 93 percent and his breathing became labored, with sharp spasms of violent coughs. Adverse reactions to medicine brought more problems -- diarrhea, vomiting, one thing after another.

It was during this trying time that Huang learned that his former patient, the one on ECMO life support, had died. The battle was over in less than 20 days.

It was sad news and Huang couldn't help fearing for his own life.

Help from all over the country

A whirl of events happened thereafter. It was confirmed at a national press conference that the virus was highly contagious and could transmit from people to people. Three days later, on Jan 23, Wuhan announced an unprecedented citywide lockdown, a desperate measure trying to curb the widening spread of infection.

As an initial response, Wuhan announced a list of 61 fever clinics and designated three hospitals, including Jinyintan, as the city's special medical institutions to fight against the virus. A total of 800 beds were set up in the three designated hospitals while another 1,200 beds were vacated at other municipal hospitals.

They were not enough, not even remotely, as thousands flocked to the fever clinics and the hospitals were soon filled with anxious patients. Many, even those with a positive test result confirming their infection, couldn't get a hospital bed anywhere.

On Jan 27, Chinese Vice Premier Sun Chunlan led a central government guiding group to Wuhan to gain first-hand knowledge about the outbreak. Soon afterwards, medical assistance teams flew into Wuhan from across China, a total of over 38,000 medical workers in the end.

At the same time Wuhan tried to accommodate all the infected patients. In lightning speed it built two makeshift hospitals – the Huoshenshan (Fire God Mountain) and Leishenshan (Thunder God Mountain) – and added nearly 50 hospitals to its list of designated medical institutions. It even converted over a dozen stadiums and convention centers into shelters for people in need of self-isolation and medical observation.

Gradually, the tide began to turn.

A new beginning

"From the very beginning, we have never been alone in this fight," said Zhang. "We have the nation's entire medical system behind us, behind Wuhan."

The Chongqing-based Army Medical University sent over a medical team to Jinyintan soon after the Chinese New Year. Another team arrived from Shanghai. At the same time, the hospital started several clinical research projects, trying to come up with better treatment for the disease. For example, on Feb 5, a medical team from the Beijing-based China-Japan Friendship Hospital started a clinical trial of Rhedivevir in Jinyintan.

On Feb 21, for the first time Jinyintan recorded more COVID-19 patients (56) who had recovered and been discharged than new patients (13) who had been confirmed and admitted. And for seven consecutive days until Monday, Wuhan reported no case of new infection.

The situation had finally stabilized. So did Huang. Not only had he fully recovered from the disease, he also returned to his post at Jinyintan, back at the frontline in the battle.

"The situation is much better now," Zhang said. "We'll continue to rescue the patients. We won't give up hope."

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