

Being responsible for someone else: a shared duty for parents and heart failure specialists during the COVID-19 pandemic

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Abstract

A pandemic by a novel coronavirus disease (COVID-19) has been declared by the World Health Organization. Lombardy, the region of our tertiary referral centre for heart diseases in Northern Italy, has been particularly hit by the pandemic. According to the government's prescriptions, all elective activities and procedures in the last months were suspended in order to concentrate our efforts on COVID-19 patients' care. Entire departments have been turned into 'COVID-19 units', where healthcare professionals are daily involved in supporting critically ill patients.

On a personal level, this was a period of special feelings and peculiar unexpected events. People close to healthcare workers have been affected, and our lives have been turned upside down. Furthermore, right in this period, few colleagues (and friends) are facing entirely new events in their lives, such as fatherhood with its load of joy and concern.

Through the case of a young woman recently admitted to our department with a severe heart failure due to a peripartum cardiomyopathy, described in narrative form, this manuscript would help all those involved in the front line in the fight against the pandemic in these difficult times.

Keywords Pregnancy; Peripartum cardiomyopathy; COVID-19; Pandemic; Heart failure; Parenthood

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Mrs M. was lying on her sofa with her best friends in Milan, watching an episode of *MasterChef*, when, looking back, she suspects she was infected with SARS-CoV-2. It was the first week of March, Italy was on the eve of the complete lockdown, and small meetings were still allowed. On the same evening, a few kilometres away, my girlfriend was leaving to her parents' house with my 4-month-old son. At that time, Mrs M., a 34-year-old woman who was already the mother of a 2-year-old girl, was entering her uncomplicated 31st week of pregnancy. The next morning, one of her friends texted her that just a few hours after their meeting, she had developed flu-like symptoms. Mrs M. initially became a little anxious (frightening images of COVID-19 patients were flowing in the media daily), but then she quickly returned to being absorbed by daily commitments and preparing the house for the expected birth. A week later, she began to develop fever and persistent cough, but the symptoms

gradually disappeared after 10 days. She had managed to infect her husband and daughter, fortunately without any complications. She was in daily phone contact with her gynaecologist, and apparently, the pregnancy proceeded normally despite the fear. In fact, she felt in perfect shape when on the evening of 21 March the contractions began. At 4 a.m. in the morning, a lovely healthy boy was born, and 2 days later, mother and son were discharged. During this whole time, she had never undergone a diagnostic swab, so neither she nor her family were included in the COVID-19 official cases. In the second half of March, Northern Italy was facing the most difficult moment of the pandemic, with dozens of daily deaths creating enormous pressure on the health system, unable to cope with an increasing number of patients needing intensive care.¹ 'Everything will be fine' was repeated everywhere, but nobody seemed to really believe it. This public crisis had significant repercussions on people's

balance, especially when they were experiencing huge novelties in their personal lives, for example, parenthood. During the height of the pandemic, my girlfriend and I decided that we should not live together in order to protect her and our newborn son. Similarly, one of my closest friends, who was working in a 'COVID centre', was terrified of taking the virus home to his 8 month pregnant girlfriend. Another colleague, a family doctor, sent his partner and their baby to their house in the mountains. A few days ago, they returned to the city for planned vaccinations, and they were able to greet each other from afar through a glass.

About 3 weeks after the delivery, Mrs M. started to develop heart failure symptoms with progressive exertional dyspnoea. On 21 April, after feeling like drowning for almost 1 week, she was admitted to the intensive care unit with severe respiratory failure. An echocardiogram showed a dilated cardiomyopathy with severe biventricular reduction in systolic function and a left ventricular apical thrombosis. At this point, a diagnostic nasopharyngeal swab was finally performed, resulting 'weakly positive' for SARS-CoV-2, together with the presence of IgG antibodies, confirming a previous infection. She was treated with i.v. diuretics, oxygen, and anticoagulants. Given the weak heart compensation,

lactation was stopped pharmacologically. Lying in bed, her herniated disc, already challenged by the pregnancy, exacerbated with severe back pain. During the entire hospital stay, she was put in solitary confinement where she only saw doctors and nurses, always covered by extensive protective equipment. She received daily pictures of her newborn son, and she told her husband: 'They think I have a disease called peripartum cardiomyopathy, and it's serious'.

On 29 April, Mrs M. was stable enough to be transferred to my department, on the very same day I was united with my family after about 2 months of separation.

Outside, spring was in full bloom, and containment measures were finally beginning to bear fruit. The political debate gradually shifted from emergency management towards measures to restart the country (the so-called 'phase two'). Nevertheless, protective measures were still maintained within hospitals, and visitors were banned. By then, Mrs M. had not seen her newborn son for over a week. From the very moment I first met her, I felt the need to comfort her. After all, we shared the burden of not being able to be with our children. Maybe for the first time since becoming a doctor, I truly identified myself with the patient I was facing, with her fears and hopes. When I returned home in the

Figure 1 Pictures from the front line. (1) To avoid viral contamination, mobile phones are also wrapped in plastic bags, generating blurred photographs. (2) Many nurses moved away from their families during the pandemic, agreeing to take additional shifts even though young children were not going to school. (3) 'Ready to reopen': the evening before the reopening of clinics, the hospital spaces await the first patients according to the rules of social distancing. (4) Although some of them fell (mildly) ill, the cardiology fellows have always been present in the department during the COVID-19 period, a fundamental contribution. (5) A nurse receives an Easter egg for her daughter from a cardiologist friend. This year, because of the lockdown, they were unable to celebrate Easter together. (6) A jar of honey as a gift for the patient suffering from peripartum cardiomyopathy. Despite the acute presentation with severe cardiac dysfunction, according to the ESC guidelines,⁴ there is a good chance of recovery.



evening, between diaper changes, I discussed with my girlfriend, a neonatologist, how difficult it was to really take care of someone who, instead, was supposed to take care of her child.

I realized that I did not remember much about peripartum cardiomyopathy. I had completed a postgraduate course in heart failure from the University of Zurich in Switzerland in collaboration with the European Society of Cardiology² also addressing this topic. Since I work at a single-specialty cardiology hospital, I distinctly remember thinking, when I saw the PowerPoint slides on peripartum heart diseases, 'I will never come across this kind of patient!'. I went back to those slides, I texted a couple of foreign colleagues to share clinical decisions, and, together with the heart failure team of my hospital, we set up a diagnostic and therapeutic plan for Mrs M. Bromocriptine, together with a full heart failure treatment (beta-blockers, aldosterone antagonist, and sacubitril/valsartan) was started. She responded well to treatment, and her mood also got better. We talked a lot, and we shared pictures of our children. She described how, through meditation, she could feel warmth emanating from her heart, and she was surprised that I was sceptical of this. She told me that she loved honey. My girlfriend's grandfather raises bees, so for Mother's Day, on 10 May, I brought her a large jar of honey. Her heart rate on the monitor increased by 10 beats.

On 14 May, I discharged her from the hospital. I brought her some coffee. She was feeling better, and her heart function had improved. Even back pain was also getting a little better. She could not wait to be reunited with her family

after this bad spell. I gave her the discharge letter with a full list of medications, and I went down the stairs, where I saw her husband waiting outside the hospital holding a little girl. Afterwards, she confessed to me that she had started to cry with emotion already in the elevator.

What we went through in the past few weeks has been a terrible crisis, both from a professional and personal point of view (*Figure 1*).³ Many people have died, and many healthcare workers have gotten sick. Using personal protective equipment and considering all others as possible vectors of contagion have sometimes distanced us from each other. But at the same time, we all suddenly felt (both doctors and patients) closer together, like being exactly on the same level. Dear Mrs M., I guess that, at the end of the day, being a parent (and a doctor) means exactly this: being responsible for someone else, especially at the time of COVID-19.

Conflict of interest

None declared.

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