

## A case of SARS-CoV-2 and Plasmodium vivax co-infection

연세대학교 의과대학 내과학교실<sup>1</sup>, 국민건강보험 일산병원 감염내과<sup>2</sup>박승현<sup>1</sup>, 정우용<sup>2</sup>, 최희경<sup>2</sup>, \*최흔<sup>2</sup>

During the coronavirus disease 2019 (COVID-19) pandemic, other infectious diseases have persisted, posing challenges in diagnosing concurrent infections alongside COVID-19 in a timely manner. Malaria exhibits similar symptoms and diagnostic characteristics to COVID-19, leading to delayed detection. We present a case of *Plasmodium vivax* infection in a patient who experienced persistent thrombocytopenia following severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. A 71-year-old female with hypertension presented with symptoms of cough and fever and tested positive for COVID-19. Following the May 2021 guidelines of the South Korea, she was admitted to an isolation ward. Chest X-ray revealed ground glass opacities and the patient received intravenous remdesivir for three days (200 mg initially, followed by 100 mg/day). Despite treatment, the symptoms persisted, and thrombocytopenia (52,000 / $\mu$ l) was confirmed, resulting in the patient's transfer to COVID-19 regional designated hospital. At the hospital, it was found that the patient required oxygen supplementation (2 L/min via nasal prongs), leading to the addition of intravenous dexamethasone (6 mg/day) and continuation of remdesivir for two more days. The patient reported no recent travel history. However, she resided in a malaria-endemic area in Gyeonggi Province, South Korea. Peripheral blood smear analysis confirmed the presence of *P. vivax*, which was further supported by positive Malaria Ag test and Malaria smear test results. The patient received a therapeutic dose of hydroxychloroquine (25 mg/kg for chloroquine base) over three days. Additionally, primaquine was prescribed for relapse prevention (15 mg/day) over a two-week period. A follow-up Malaria smear test conducted after three days of hydroxychloroquine treatment yielded a negative result, indicating successful treatment. The patient was hospitalized for 10 days to receive treatment for COVID-19 and malaria. As the patient's oxygen demand decreased and platelet levels returned to normal (202,000 / $\mu$ l), she was discharged with no symptoms, along with a prescription for primaquine. This case ensures a timely and accurate diagnosis of malaria.

