

CASE DESCRIPTION

Patient is a 59-year-old man who suffered from severe COVID-19 related respiratory distress. He received IV antibiotics, steroids, hydrochloroquine, tocilizumab, and convalescent plasma. While the patient had never needed intubation, his oxygen needs were such that he required high-flow nasal cannula (HFNC). The patient had been hospitalized for over a month, but his only symptom had been desaturation when not using HFNC. During his hospitalization, he had also been found with a myocardial infarction due to demand ischemia. **Patient reported that he works in a quarry where he manages a drill.** As a result, he has significant workplace exposure to dust and other airborne particles. **His wife works in a nursing home and also contracted COVID-19, but he was the only one of the two who was hospitalized.** He was ultimately able to be weaned down to nasal cannula supplementation before discharge to acute rehab for pulmonary rehabilitation.



TOXIN EXPOSURE

The major toxin that quarry workers are exposed to is silica dust. These particles are very fine and are easily breathable as a result. They increase the risk of silicosis, and in the worst case scenario, could eventually lead to lung cancer.

REFERENCES

- 1) ATS COVID-19 Related Advocacy, www.thoracic.org/covid/covid-19-advocacy.php.
- 2) "Dust Including Silica Dust." Health and Safety Authority, www.hsa.ie/eng/Your_Industry/Quarrying/Health_Surveillance_Occupational_Disease/Dust_Including_Silica_Dust/.
- 3) "HSM MAGAZINE - Quarry Workers More Likely to Die from COPD." HSM, www.hsmsearch.com/Quarry-workers-more-likely-die-COPD.

DISCUSSION

Industrial workers over the age of 55—in addition to generally belonging to the older age group—fall into the high-risk category for contracting COVID-19, particularly those with respiratory illnesses or occupational lung diseases. The American Journal of Respiratory and Critical Care Medicine published a joint statement from the American Thoracic Society and the European Respiratory Society, which stated that more than 1-in-10 people with non-cancerous lung diseases all around the world may fall sick as a result of breathing toxic gases, dust, fumes and vapors at their workplace. **It is very likely that his workplace exposure to airborne particles has compromised his respiratory system enough to debilitate him leaving him more susceptible to a severe reaction to COVID-19 infection.**

CONCLUSION

At this time, it is unclear why COVID-19 affects certain individuals differently than others. Industrial workers may develop respiratory compromise over time which puts them at high risk for severe pulmonary infection.