
“Floating egg” appearance of para-pneumonic effusion in a COVID-19 patient

Sir,

We present a previously unreported finding in a coronavirus disease 2019 (COVID-19) patient with para-pneumonic effusion. A 66-year-old female was on slow wean from mechanical ventilation following COVID-19 pneumonia and critical illness neuropathy. Past medical history included thyroidectomy and

902

parathyroidectomy, for which she was on medications. On Day 29 of hospital stay, she developed a large pneumothorax on left side. This was relieved using 20 FG chest drain catheter which also produced about 200 ml of straw-colored fluid. The fluid column in the tubing was moving without the need for suction. The next day, the chest drain container appeared to have a solid irregular white membranous cystic floating mass measuring approximately $5 \times 4 \times 4$ cm similar to egg white clumps in hot water [Figure 1].

The pleural fluid was an exudate with lactate dehydrogenase >1995 IU/l, total protein 34 g/l, along with a few lymphocytes and mesothelial cells.^[1] There were no malignant cells or organisms and culture was negative. Histopathology

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examination of the solid specimen showed fibrinous material mixed with inflammatory cells. Immunohistochemical tests including Ber-EP4 and Calretinin were negative for mesothelioma or granuloma. Patient developed a pleural effusion on the right side two days later which drained straw-colored fluid. The day after, a similar but smaller sized mass was noted within the chest drain container on right side. Thyroid function tests done a week earlier had shown that thyroid stimulating hormone level was raised but free T4 was normal. Tracheal sample from two days prior for SARS-CoV-2 RNA polymerase chain reaction was negative.

Exudative pleural effusions are seen in infectious diseases, malignancy and connective tissue disorders. However, formation of a coagulum is rare with the exception of tuberculous pleural effusion where cobweb coagulum was noted in 62% of cases.^[2] Even in tuberculous pleural effusion, the pleural fluid is serous or hemorrhagic and a floating egg coagulum has not been reported.^[3] Coagulum formation has not been reported before in viral pneumonia induced pleural effusions.

The size and extent of the coagulum in this patient was such that it could not have formed within the chest and passed through the small diameter of 20 FG chest drain catheter. Although intraluminal bronchial mucous plugs have been noted in COVID-19 pneumonia, they were much smaller in size.^[4] Mesothelial cells are generally absent in tuberculous pleural effusion.^[2] Pleural effusion in hypothyroidism is borderline between exudates and transudates.^[5] Radiological changes in COVID-19 pneumonia can take a long time to resolve.^[6] This might explain the findings in this patient even though repeat testing for viral RNA was negative.

In summary, this report highlights the presence of a prominent coagulum with appearance resembling a

floating egg in an exudative para-pneumonic pleural effusion caused by COVID-19.

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Conflicts of interest

There are no conflicts of interest.

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Figure 1: White membranous cystic floating mass in the effusion fluid

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