In terms of pathophysiology, a diagnosis of PE as a complication of sickle cell is not surprising; however in clinical practice it is rarely seen. This points towards PIMS-TS being the cause of this presentation, for which WHO definition requires evidence of SARS-CoV2 infection or exposure. Indeed our patient is likely to have been exposed to Covid 19, given that he presented in the peak of the first wave, however PCR swabs were negative during admission. Three months after presentation, his anti Sars Cov IgG was negative.

The key take-home message from this case is to consider other diagnoses in sickle cell patients during the time of Covid 19. There is a need for increased research into how to differentiate the two disorders. This is important because if the primary cause of illness is PIMS-TS rather than sickle cell disease, careful consideration needs to go into treatments as immunomodulation with IV Ig may increase viscosity and steroids can contribute to hypertension, thus worsening the progression of underlying sickle cell disease. Diagnosing PIMS-TS in those with sickle cell is particularly important as patients from a minority ethnic suffer worse outcomes.

### Abstracts

#### 114 DIAGNOSTIC DIFFICULTY DURING COVID 19 PANDEMIC-SICKLE CELL CRISIS OR PIMS-TS?

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**Background** The following case report highlights the difficulty in distinguishing Paediatric Multisystem Inflammatory Syndrome Temporally Associated with Sars-CoV-2 (PIMS-TS) from sickle cell crisis. This is important in the context of a looming second wave of the Covid 19 pandemic, particularly in areas where there is a large population of children with sickle cell disease. This is the first case report discussing PIMS-TS in a child with sickle cell disease and pulmonary emboli as a result of this.

**Objectives** A 17 year old boy with sickle cell disease presented to the paediatric department of a district general hospital in South London with pleuritic chest pain and worsening shortness of breath in April 2020. He was tachypnoeic and tachycardic. Oxygen saturation was 95% in air and he was afebrile. He had quiet breath sounds and was tender in the right upper quadrant of his abdomen. A week prior to this he required intravenous (IV) antibiotics and two exchange transfusions via a femoral line. Blood tests showed a white cell count (WCC) of 11.4, a C-reactive protein (CRP) of 120, haemoglobin of 108, INR of 1.6 and deranged liver function tests. His D dimer was 8339, so a pulmonary Computed Tomography (CT) angiogram was performed. This demonstrated bilateral pulmonary emboli (PE).

**Methods**

**Results** Differential diagnoses for the cause of the PE were sickle cell disease and PIMS-TS.

**Conclusions** Both PIMS-TS and sickle cell crises are disorders involving exaggerated inflammation and risk of coagulopathy, with raised CRP, D Dimer, INR and WCC. The guidelines for investigations of PIMS-TS include other markers such as LDH, troponin, BNP, ferritin and creatinine kinase. However, these blood tests are rarely performed in the general paediatric population or those with sickle cell disease, so they need to be specifically studied to determine whether they provide any significant distinction for a diagnosis of PIMS-TS.