Clinico-radiological recovery following severe COVID-19 pneumonia

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Background

The recovery course following COVID-19 pneumonia remains poorly understood. Analysis of routine clinical and imaging follow up of patients admitted with COVID-19 pneumonia undertaken in accordance with British Thoracic Society (BTS) guidance offers an opportunity to improve our understanding of the recovery course following acute infection.

Developing the follow up service

A local follow up service utilising available resources including telephone clinics, ambulatory care units and respiratory clinics was developed as an initial response to the pandemic. The pathway was taken from BTS guidelines and adapted to meet local resources as well as specifically addressing the increased thromboembolic risk recognised (**figure 1**).

All patients requiring ICU or respiratory HDU level care at Gloucestershire Hospitals NHS Foundation Trust with COVID-19 pneumonia were offered telephone review and interval chest radiograph (CXR) at 6 and 12 respectively. All chest radiographs were reported by a consultant radiologist.

Patients were contacted in chronological order by discharge date. The data presented here covers discharges between 25/03–03/05/20 inclusive.

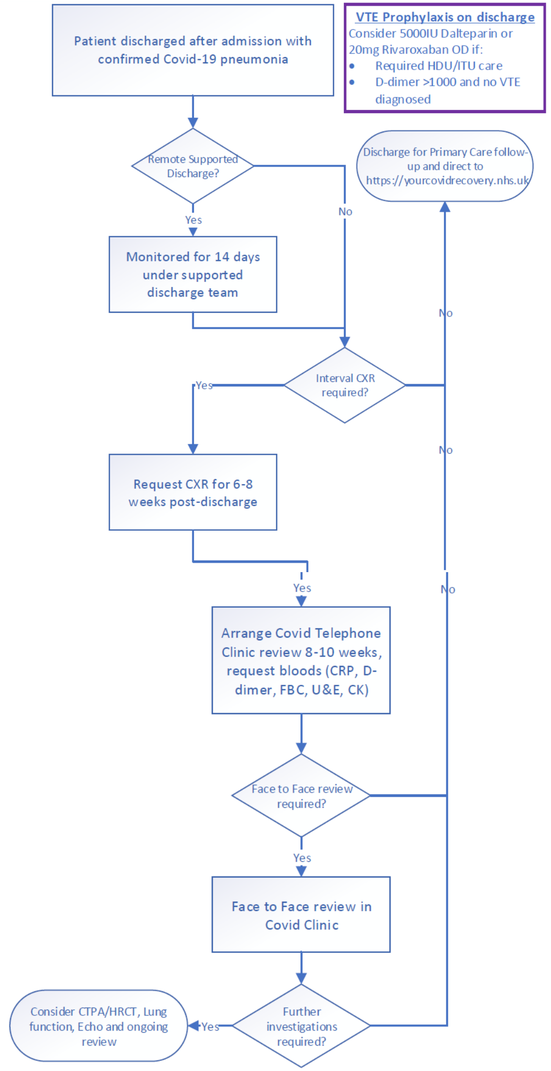


Figure 1: Post-covid follow up pathway

	Persisting	Improving	Resolved	Never experienced
Dyspnoea	6 (10%)	25 (44%)	26 (46%)	0
Cough	4 (7%)	1 (2%)	42 (74%)	10 (18%)
Fatigue	14 (25%)	13 (23%)	29 (51%)	1 (2%)

Table 1: Self-reported persistence of symptoms at initial telephone review (N=57)

12-week CXR result:	
Total	49
Clear	34 (71.7%)
Linear atelectasis	10 (19.5%)
Persisting consolidation	5 (8.7%)

Table 2: 12-week interval CXR (N=49)

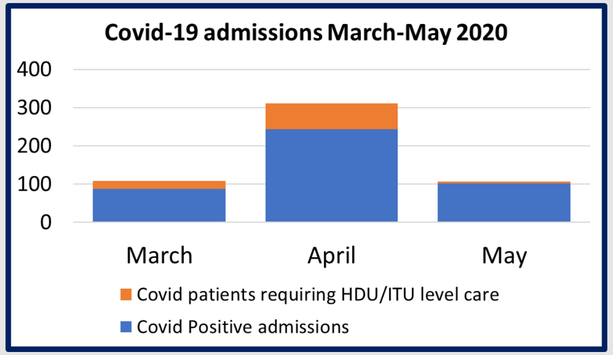
Results

N=73 patients requiring follow up clinic review were discharged within the 5-week period of analysis (74% male, mean age 57.6 years, range 22-84). **N=41** (56.1%) had been admitted to ITU, with the remainder admitted to HDU.

Following discharge, **N=6** (8.2%) were re-admitted within 30 days (median time to first re-admission 19.1 days). N=2 (3.5%) patients were diagnosed with pulmonary emboli following the index admission.

Follow up calls occurred with **N=57** patients, at median 9.6 weeks post discharge (range 6-12 weeks). Patient reported persistence of symptoms at time of review is summarised in **table 1**.

Results of 12-week CXR are in **table 2** (N=49).



Discussion

These data highlight persistent symptoms at 6-12 weeks; particularly exertional dyspnoea and fatigue. 91% of patients were free from cough at this time; investigating for possible alternative causes should therefore be considered in patients experiencing chronic cough.

These data are valuable in planning long-term follow up for patients recovering from COVID-19 pneumonia and support the BTS recommendations for early proactive follow up of this cohort.

References

1. British Thoracic Society Guidance on Respiratory Follow Up of Patients with a Clinico-Radiological Diagnosis of COVID-19 Pneumonia, 2020