Pleural services during the COVID-19 Pandemic

The current COVID-19 pandemic is putting enormous strain on NHS resources. This will cause increasing disruption to established clinical pathways, and in-patient bed shortages. This document aims to provide guidance on the provision of a pleural service during this crisis. The main priorities are to continue to provide diagnostic pathways for suspected cancer patients, to minimise hospital visits and admissions for symptomatic patients with both benign and malignant conditions, and to ensure patient and staff safety.

Diagnostic pathways:

- For patients with suspected pleural malignancy, in whom systemic anti-cancer therapy (SACT) would likely be undertaken despite the pandemic, diagnostic pleural procedures should continue:
    - If the pre-test probability of successful cytological diagnosis and predictive marker testing from pleural fluid cytology is judged to be sufficiently high, or if other factors & resources dictate, proceed with diagnostic pleural aspiration.
    - If the pre-test probability of successful cytological diagnosis and predictive marker testing from pleural fluid cytology is judged to be low, and where expertise and resources allow, consider directly moving to histological sampling via US-guided cutting needle biopsy or day case local anaesthetic thoracoscopy (+/- IPC insertion during thoracoscopy).
- Diagnostic pleural procedures should continue for patients with suspected pleural infection.

Therapeutic pathways: Pleural Effusion

- For patients with a malignant pleural effusion and significant symptoms of breathlessness, or those in whom recurrent effusion of any underlying cause requires definitive management, a therapeutic pleural aspiration or indwelling Pleural Catheter (IPC) insertion should be the treatment of choice.
- Avoid admission for talc slurry pleurodesis of malignant and other effusions (via chest tube).
- The risk of further pleural interventions during the COVID crisis should be assessed if planning a therapeutic pleural aspiration.
- Consider, where possible, a strong recommendation that family members are trained in the drainage of IPCs for those requiring IPC insertion to support social isolation, rather than district nurse visits.
- Consider, where possible, training family members in drainage technique on the same day as IPC insertion.
- Where district nurses are required for IPC drainage, consider reducing the frequency of IPC drainage to twice weekly.
- Avoid talc slurry via an IPC to minimise hospital visits.
- Where possible, multiple procedures should be planned for a single visit e.g. image guided pleural biopsy and IPC insertion at the same visit.

Therapeutic pathways: Pneumothorax

- Primary Spontaneous Pneumothorax (PSP) should be managed in an ambulatory pathway where local expertise and resources allow:

- Consider conservative management of minimally symptomatic patients with an appropriate risk assessment for ambulatory outpatient care.
- Consider management of symptomatic patients with an integrated device (e.g. Rocket Pleural Vent or equivalent) or 12Fr chest tube with Heimlich valve attached, and outpatient review.
- Patients discharged with a pleural device or chest drain in situ for a pneumothorax should be advised to self-isolate given the risk, albeit small, of aerosol generation.
- Those patients with large air leak or failed 12Fr chest drain may still require admission to hospital for further management.

Consider deferral of or alternative management in the following groups:

- Patients in whom comorbidities or performance status are likely to preclude SACT in malignant pleural disease, including patients with suspected mesothelioma (See BTS Guidance on Lung Cancer and Mesothelioma [1]), unless symptomatic from recurrent effusion.
- Patients with mild/tolerable symptoms.
- Routine follow-up of benign asbestos pleural disease or benign pleuritis.

Patient and staff safety:

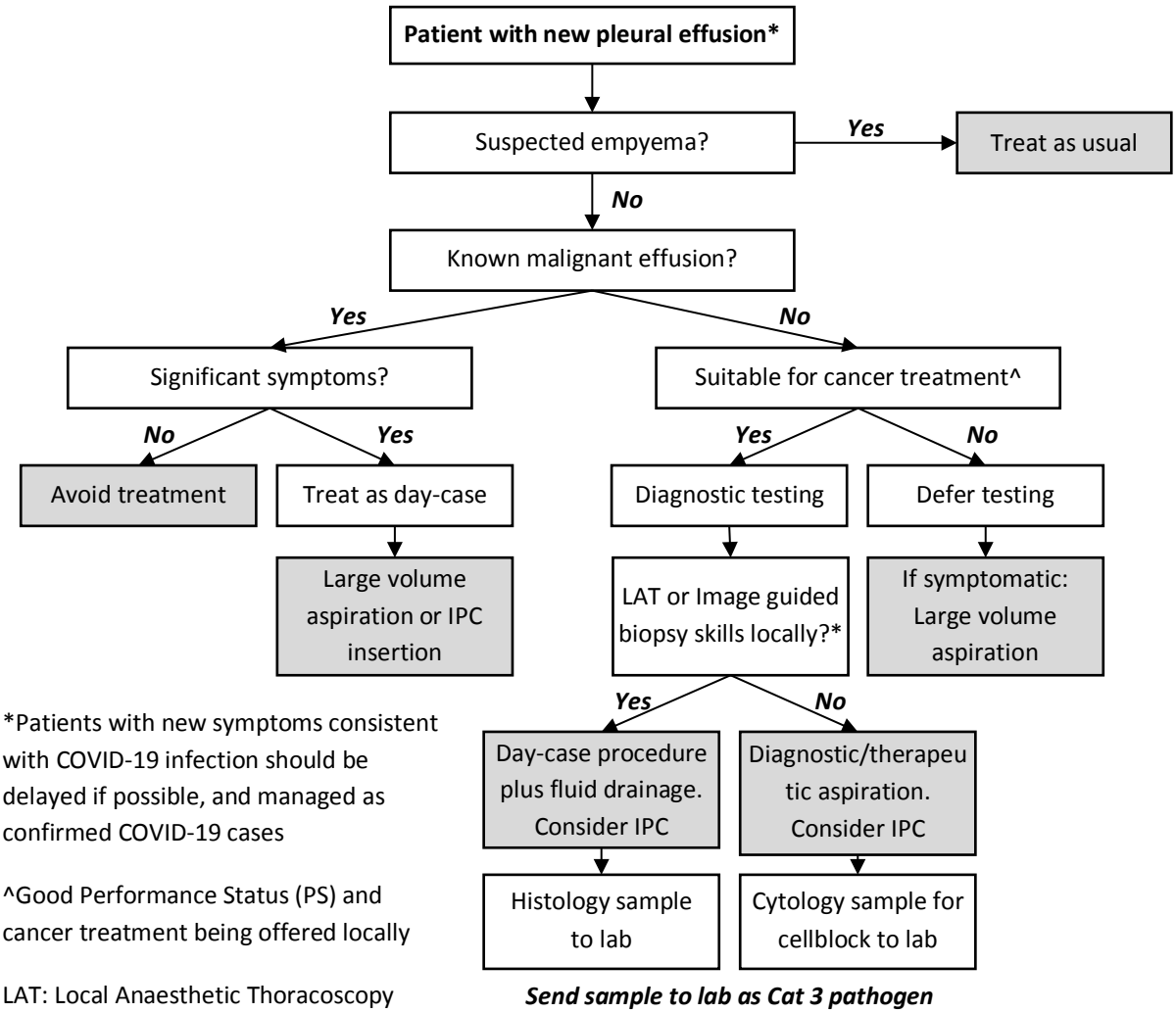
- Patients planned for a pleural procedure with new symptoms consistent with COVID-19 infection should be delayed, if possible, and managed as confirmed COVID-19 infection (per BTS Guidance on Bronchoscopy [2]).
- Although there is limited data on infectivity, pleural procedures should be considered Aerosol Generating Procedures (AGP) and Level 2 PPE should be worn (FFP-3 mask, long sleeve disposable gown, gloves, eye protection - see latest PHE guidance [3]), including appropriate eye protection during procedures where pleural fluid may splash. This is particularly relevant to “open” procedures such as thoracoscopy and IPC insertion.
- Pleural fluid samples should be handled as Category 3 pathogen (as suspected TB samples would be) and double-bagged with warning stickers.
- In patients with a chest drain and persistent air leak consider strategies to minimise droplet exposure via the chest drain circuit. For example:
    - Connect any chest drain to wall suction (even in cases where suction is not normally indicated but set at a very low, controlled level such as 5cmH20) thereby creating a closed system (whilst complying with MHRA guidance [4])
    - Where feasible, and clinical expertise exists, consider using a digital drain circuit (for example, Thopaz), which contains a filter that will reduce the risk of droplet escape.

Ongoing patient contact:

- In order to maximise the outpatient management of pleural patients, close contact with patients will be required.
- Therefore, pleural teams will need to provide ad-hoc patient face-to-face assessment (where absolutely necessary), remote assessment of symptoms, device troubleshooting and managing patient expectations/concerns. The role of the pleural nurse specialist (where this exists) is likely to be critical in ensuring appropriate patient support and contact. Their time should be protected, rather than re-deployed

Clearly the situation will vary according to hospital capacity and capability, and may need to be reviewed as the COVID-19 situation continues to escalate. For example, if cancer treatment (surgery/radiotherapy/chemotherapy) stops then diagnostic testing should be postponed.

Flowchart for management of pleural effusion in COVID-19 pandemic



*Clinical judgement on a case by case basis as well an assessment of the pre-test probability of successful cytological diagnosis (including local resources e.g. p16 FISH testing) should always dictate choice of diagnostic test

Authors: R Hallifax, JM Wrightson, A Bibby, S Walker, A Stanton, D De Fonseka, E Bedawi, A Clive, J Latham, K Blyth, S Jackson, K Marshall, N Maskell, R Bhatnagar, J Corcoran, E Belcher, M Evison, N Rahman, M Munavvar

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