Is a Pleural On-call Service Beneficial?

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Background

- Pleural disease incidence is increasing.
- Dedicated pleural services provide high-quality and prompt intervention and facilitate early diagnosis and drainage and improve patient care.[1,2]
- An on-call pleural service was set up in our Trust, accessible to local hospitals, GPs and district nurses aiming to facilitate access to pleural services, avoid hospital admissions and unnecessary outpatient appointments, and further facilitate early diagnosis and care for patients with pleural disease.

Aim

- To analyse the effects of a pleural on-call service on referrals and outcome.

Method

- Our unit instituted the provision of a "pleural phone" and pleural email service as a central point of contact for pleural related questions, both internally for our large Trust, and externally including local GPs, to :
  - Facilitate a more open model of care
  - Increase efficiency of the diagnostic pathway
  - Prevent unnecessary admissions or procedures.
- All documented pleural phone (9am - 5pm, Monday - Friday) and email (any time) referrals between March 2016 - February 2017 were analysed.

Results

- 506 logged cases:
  - Email (*n*=257)
  - Phone calls (*n*=249)

  NB: includes only *logged* phone calls (mean 1.9 referrals per working day). Phone calls documented on the electronic patient record were not accessible, therefore not included, so this is an underestimation of the number of calls received.
- The outcome of the referrals included:
  - Advice (33.6%, *n*=170)
  - Advice and pleural clinic follow up (23.7%, *n*=120)
  - Advice and scheduling for a pleural procedure (42.7%, *n*=216)
- Of the 216 scheduled procedures:
  - 49.1% (*n*=106) were scheduled for a procedure by the pleural team (*n*=29 pleural one-stop-shop appointments for procedure and review)
  - 49.1% (*n*=106) were scheduled for a procedure by the radiology team
  - 1.4% (*n*=3) were scheduled for an initial procedure by the radiology team (aspiration) then a further procedure by the pleural team (indwelling pleural catheter insertion (*n*=2), medical thoracoscopy (*n*=1))
  - 0.5% (*n*=1) were scheduled for bronchoscopy.
- Advice given on the most appropriate investigation, eg advising large volume aspiration rather than chest drain insertion and hospital admission for a new undiagnosed pleural effusion, was not quantifiable in this retrospective study.

Reason for referral	Percentage of total referrals
Pleural effusion (new, previously known, hydropneumothorax)	66.8% (*n*=338)
Empyema (diagnosed or clinically/radiologically suspected)	8.3% (*n*=42)
Pneumothorax	6.5% (*n*=33)
Indwelling pleural catheter-related queries	5.1% (*n*=26)
Other (including pleurodesis-related queries, pleural thickening)	13.2% (*n*=67)

Table 1 shows the reasons for referrals to the on-call pleural service

Outcome avoided	Number of cases
Unnecessary pleural procedure	5
Unnecessary clinic visit	10 follow up clinic appointments, 4 new clinic appointments, 2 other specialties clinic appointments
Unnecessary CT scan	1

Table 2 shows the avoided outcomes following contact with the on-call pleural service, over 12 months between March 2016 to February 2017.

NB: outcomes such as unnecessary hospitalisations avoided and unnecessary lengthening of hospital stay were not measurable in this retrospective analysis of referrals.

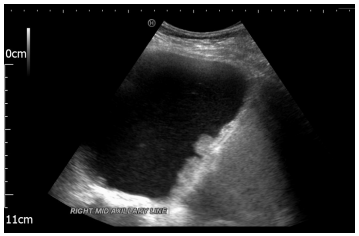
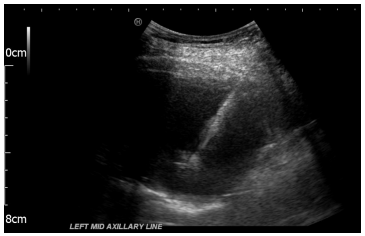


Figure 1: Pleural ultrasound image showing an echogenic pleural effusion with diaphragm nodularity

A pleural on-call service facilitates access to Pleural services. Review and ultrasound can help to risk stratify patients and provide a further guide to timely scheduling of indicated procedures.



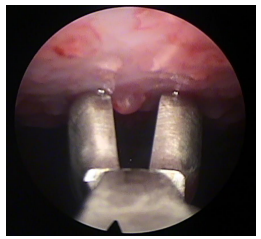


Figure 2: real-time ultrasound guided pleural biopsies – needle in pleural space
Figure 3: the taking of pleural biopsies at thoracoscopy

A pleural on-call service can facilitate the correct referral of patients for pleural procedures when indicated eg scheduling of Ultrasound-guided pleural biopsies in frail patients vs thoracoscopic pleural biopsies

Discussion / Conclusions

- Pleural on-call service is beneficial and can help avoid unnecessary clinic and procedure list appointments.

References:
1. Sura P, et al. Ambulatory and inpatient pleural service – the way forward. *Thorax* 2012;67:A113
2. Bhatnagar R, et al. Developing a 'pleural team' to run a reactive pleural service. *Clin Med* 2013;13(5):452-456