

Objectives

- To undertake a 10-year case review of the outcomes of patients admitted with AHRF associated with ILD across the four adult ICUs in the Newcastle Hospitals Foundation Trust.
- To review overall mortality and assess if any patient factors confer more favourable outcomes to guide escalation decisions.

Introduction

- ILD is an umbrella term for a group of respiratory diseases which affect the lung interstitium.
- Patients may present to hospital with known ILD and acute or acute on chronic hypoxaemic respiratory failure or as their first disease presentation. In comparison to other causes of respiratory failure these patients have an increased critical care mortality⁽¹⁾.
- Decisions not to escalate and admit to the Intensive Care Unit (ICU) can be morally challenging, particularly if functional status prior to hospitalisation is good. However, prior studies have shown ICU mortality is poor (60%) and if invasive mechanical ventilation (IMV) is required mortality may be as high as 90%⁽²⁾.
- Auditing real life outcome data can guide and justify decision making, helping clinicians by preventing moral injury and burnout.

Methods and Materials

- A retrospective search was undertaken using the electronic ICU ward watcher database of all patients > 18 years of age admitted between 2010 and 2020 to the four adult ICUs in the foundation trust using the search terms “pulmonary fibrosis” and “fibrosing alveolitis”.
- Electronic records were reviewed for all 200 patients identified.
- Patients were excluded if the primary reason for admission to critical care wasn't primarily respiratory failure.
- See Table 1 for breakdown.

	Total Identified	Excluded	Included
Ward 38	75	26	49
Ward 18	7	4	3
Ward 21	90	77	33
Ward 37	28	15	13
Total	200	122	78

Table 1. Patients Identified by ICUs.

	% of Patients	Av. Age	Sex : Male
IIP	35.9% (28)	64	82%
CTD	23% (18)	62	39%
Drug-Induced	7.7% (6)	70	67%
CPFE	8.97% (7)	72	57%
Other	19.2% (15)	58	60%
No Previous Diagnosis	5.12% (4)	73	100%

Table 2. Demographics by ILD Categories .

Results

- A total of 78 admissions were included with an average age 64 and 65% of them been male.
- Of those, 6 were repeat admissions, 4 within the same hospital stay – these patients had a 75% mortality.
- Overall ICU mortality was 56.4%, and hospital mortality was 69%. 45% were mechanically ventilated, with an ICU mortality of 85%.
- The 78 admissions were grouped into five categories and their respective mortalities were analysed.

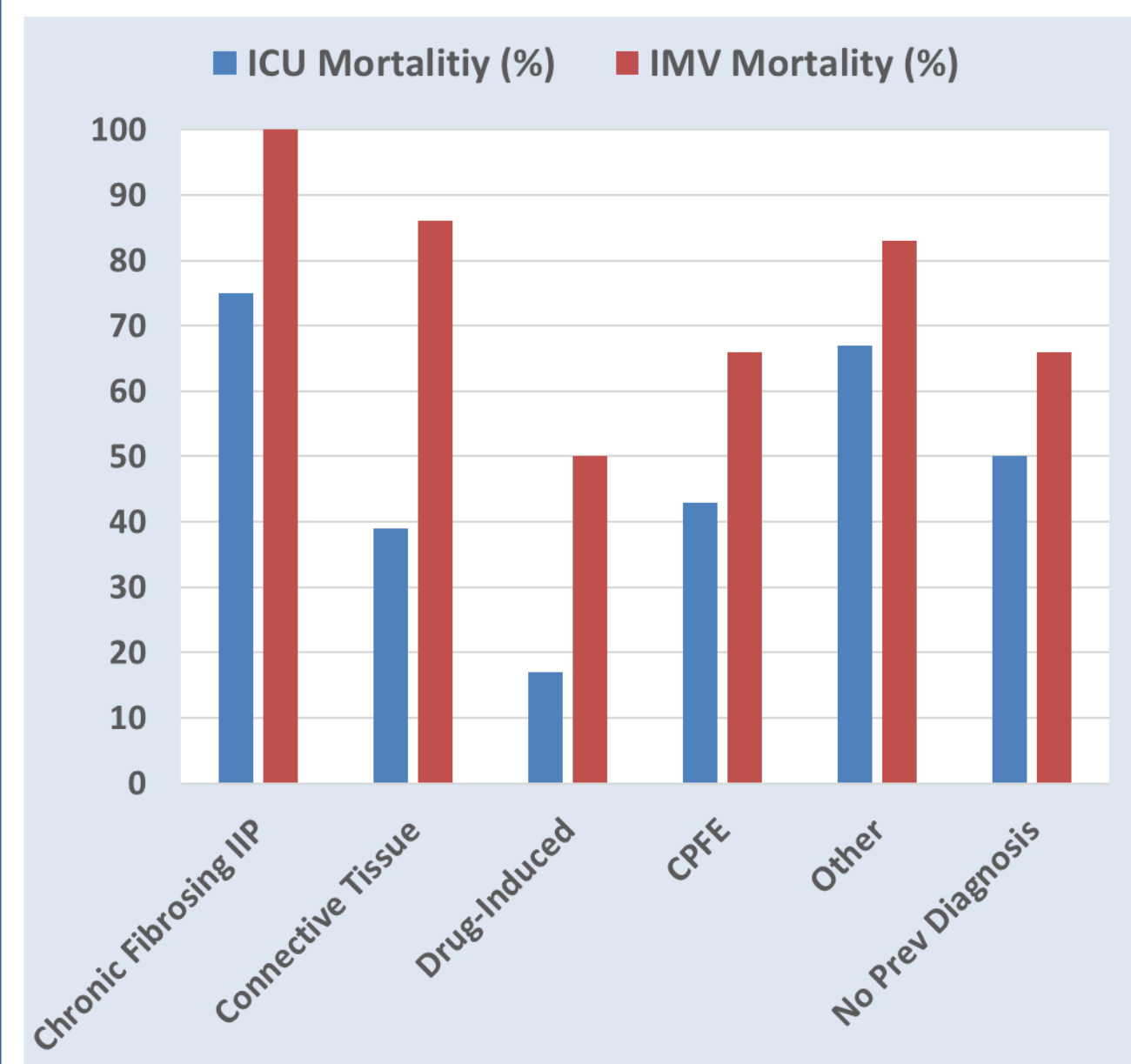


Chart 1. ICU and IMV Mortality in different categories of ILD.

Discussions/Conclusions

- In this study, ICU mortality was in line with previous reports^(3,4) with best outcomes seen in the drug-induced or CTD associated groups.
- Fibrotic IIPs conferred significant in-hospital mortality (85%), with no survivors if IMV was used.
- Overall, if patients underwent IMV, this led to poor outcomes throughout this cohort with only 11% surviving to hospital discharge.
- The study found other possible predictors of worse outcomes.
 - Higher ICNARC score.
 - Male sex.
 - Smoking.
 - Previous steroid use.
 - High CRP, negative microbiology
- Decision making regarding ventilation in ILD over the last 10 years has evolved and while this study's data can't evaluate this, anecdotally the last patient with fibrotic IIP invasively ventilated on ward 38 (general medical ICU) was in 2017. This likely reflects the anecdotally poor outcome experience of the clinicians which has now been borne out by this study's data.
- Limitations to this study include the possibility of exclusion of patients from search results due to the reliance of clinicians inputting correct information and the limited coding terms for ILD on ward watcher.

References

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