

A141 - Impact of Covid 19 on critical care nosocomial infection rates

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Introduction:

Critical Care nosocomial infection (CCNI) increases risk of patient mortality and morbidity^{1,2}. The impact of the Coronavirus 19 (2019-nCoV) pandemic on CCNI in terms of increased strain and infection control measures, is uncertain. Departmental strain has the potential to confound impact of infection control measures aimed to reduce CCNI incidence. This study will describe the impact of 2019-nCoV on non-Covid CCNI incidence and mortality.

Methods:

A retrospective cohort study of adult patients admitted to critical care in one Central London teaching hospital. CCNI incidence, (diagnosed ≥ 48 hours post critical care admission), was compared between pre (Jan 2019-Feb 2020) and peak Covid (Mar 2020-Jun 2020).

Results:

Of 2,266 patients, 1788 were admitted pre and 478 peak Covid. Mean age was 57.2 years and 56.1 years pre and peak Covid respectively, with 35.5% and 37.4% of patients, female. There was a significant increase in rate of total CCNI incidence (1.6% to 3.6%) in the pre and peak period respectively. There was a significant increase in rate of incidence of gram negative bacterium and C. Diff, but not in gram positive bacterium, MRSA, VRE and fungus. The increase in rate of peak (23.5%) compared to pre Covid (13.5%) CCNI non-Covid mortality, was not significant.

Conclusion:

Increased infection control measures did not protect against non-Covid CCNI and mortality across all infection types. Increased strain is likely to confound additional infection control measures and resulted in excess patient non-Covid CCNI and mortality, secondary to the pandemic. Greater emphasis is needed to protect other patients from expected CCNIs.

References:

ECDC (2017). Incidence and attributable mortality of healthcare-associated infections in intensive care units in Europe, 2008-12. www.ecdc.europa.eu/en/publications

Dasgupta, S et al (2015) Nosocomial infections in the intensive care unit: Incidence, risk factors, outcome and associated pathogens in a public tertiary teaching hospital. *Jnl of Crit Care Med* 19(1)14-20

Table:

| CCNI | Pre Covid | Peak Covid | Non Covid CCNI mortality | |
|--------------|-----------|------------|-----------------------------|------------|
| | | | Pre Covid | Post COvid |
| All gram -ve | 4.1% | 4.1% | | |
| All gram +ve | 4.1% | 8.6% | 13.7% | 23.5% |
| MRSA | 1.4% | 1.3% | * significant at 0.05 level | |
| VRE | 2.0% | 3.1% | | |
| C. Diff* | 0.4% | 3.6% | | |
| Fungus | 0.2% | 0.7% | | |
| All CCNI* | 1.6% | 3.6% | | |