Retrospective Analysis of COVID-19 Management and Mortality in Dumfries and Galloway Royal Infirmary

Patricia Fingland, Sharon Irvine, Alison Moore, Elspeth Purdie, Muniba Rasul
NHS Dumfries and Galloway

Background

- During the COVID-19 pandemic, the clinical management of patients evolved rapidly (figure 1).
- In the initial stages, treatments were largely experimental. Over time, protocols began to incorporate evidence-based treatments such as dexamethasone, anticoagulants, and other supportive measures.
- The use of monoclonal antibodies and antiviral therapies also increased. Trials such as the Recovery trial provided evidence supporting the use of dexamethasone, remdesivir, and tocilizumab.
- Vaccination Impact: Vaccinations significantly reduced the severity of illness and hospitalisation rates among individuals.
- Challenges Post-Vaccination:
  - Complacency: There has been a decline in adherence to clinical guidelines, mask-wearing, social distancing, and hand hygiene.
  - High-Risk Patient Groups (Figure 2): These groups continue to face significant mortality from COVID-19 due to poor immune response and lack of protective antibodies. It is crucial to ensure that high-risk individuals are rapidly and accurately assessed to reduce mortality risk and receive available evidence-based treatments.

Figure 1

COVID-19 BASICS – Quick reference guide v3 July 2023

Based on guide produced by Liverpool University Hospitals NHS Foundation Trust

NHS Dumfries & Galloway

Patient admitted to hospital and COVID positive, without a new oxygen requirement?

Includes hospital onset COVID, or positive COVID test on or before admission with another clinical problem. Please refer to National Policy

Patient in a high-risk group? OR Risk of destabilising current condition or recovery from procedure? → Yes → Within 5 days of developing symptoms? → Yes → First line Nirmatrelvir & Ritonavir Discuss with pharmacist 9am – 5pm* OR Second line Sotrovimab Discuss with pharmacist 9am – 5pm* | Can also consider Remdesivir / Molnupiravir. Discuss with pharmacist 9am – 5pm*

Patient currently unwell due to COVID? With O_2 requirement, typical symptoms, compatible CXR or CT, unlikely alternative cause. See National Policy

B Breathing	A Antivirals	S Steroids	I IL-6 pathway agents	C Clotting
Supplement oxygen to maintain sats 92 – 96% (88 – 92% if risk of hypercapnia) Contact ICU or respiratory consultant if not maintaining sats on 40% Advise **awake proning** if possible.	If requires low flow oxygen and there is risk of deterioration, can consider **Remdesivir** IV up to 5 days Discuss with pharmacist 8am – 10pm*	If requires oxygen **Dexamethasone** 6mg OD for 10 days Hydrocortisone IV 50mg tds if pregnant Add PPI/H2 antagonist if not already on	If requires oxygen consider **tocilizumab** stat (if not suitable can use sarilumab off licence). In addition, can consider **baricitinib** (off licence). Discuss with pharmacist 8am – 10pm*	Complete VTE assessment Prescribe **prophylactic LMWH** unless contraindicated Assess and document bleeding risk

Stop unnecessary antibiotics. Routine antibiotics are not required in COVID pneumonia

EStablish vaccination status. Unvaccinated patients may require more interventions

EScalate appropriately. All patients need TEP and discussion re DNAR status.

* If after hours ensure call is made asap next day to enable prompt treatment.

Methods

- 100 acute adult admissions to DGRI with laboratory confirmed COVID infection, between December 2022 and April 2023 were included.
- Case notes and clinical portal were used as a source of information.

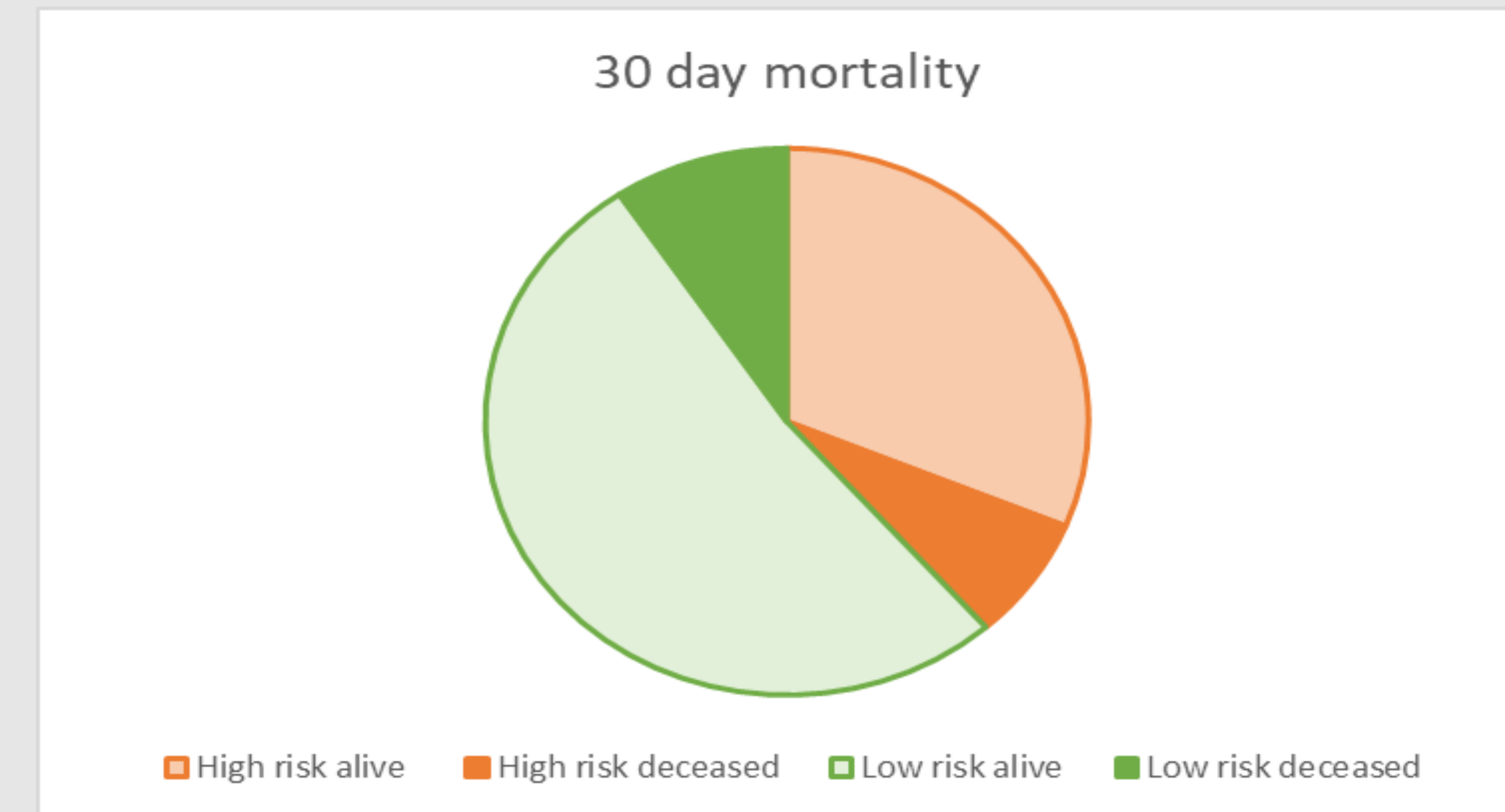
Results

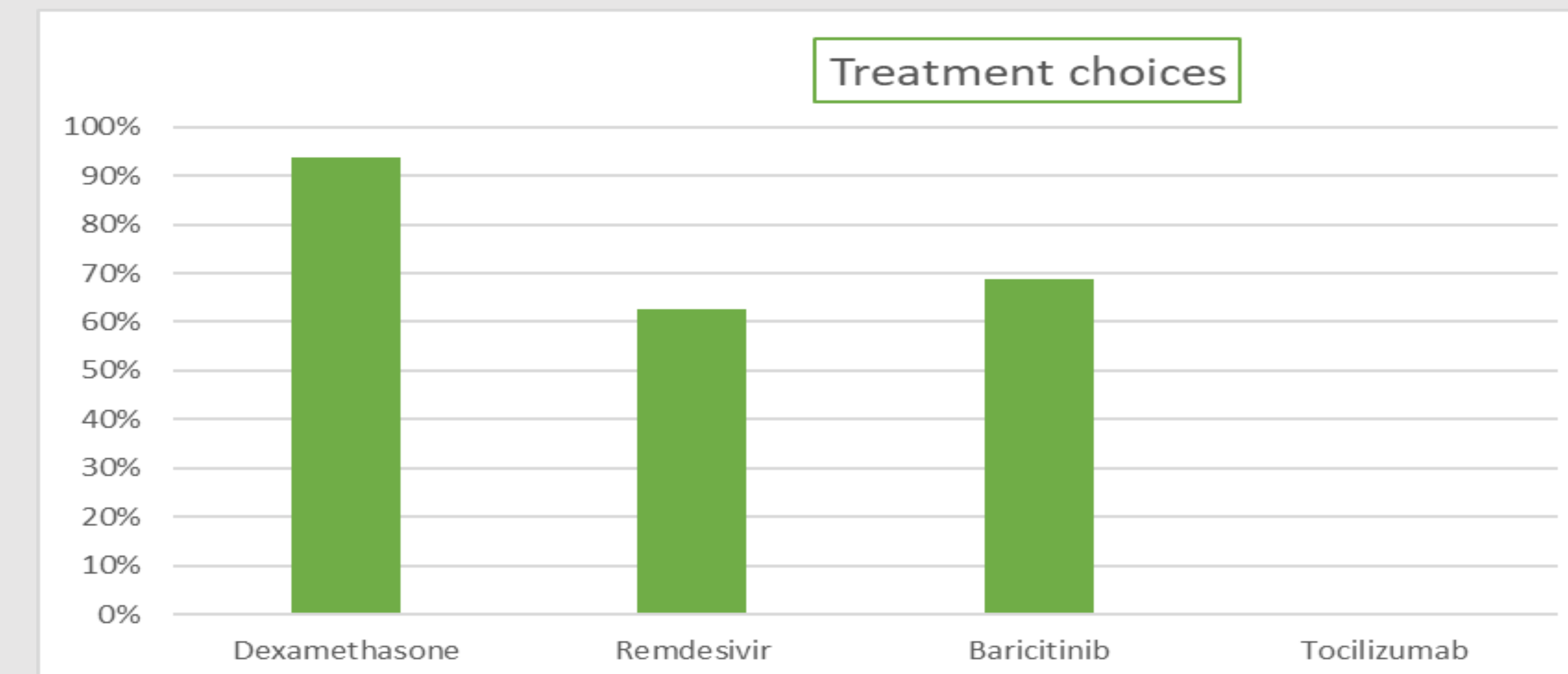
- Total cases: 98
- Risk Category: Low risk: 59 (62.8%), High risk 37 (37.2%)
- 30-Day mortality: Alive: 79 (80.6%), Deceased: 19 (19.4%)
- Age comparison: Alive 77 years, Deceased 80.37 years
- High Risk patients: Treated: 21 (60%), Not treated: 14 (40%)
- Moderate to severe infection: 72.9% survived, **27.1% died**
- Guidance adherence: Guidance followed in 69.4% of cases

Implications for practice

- Ongoing emphasis around adherence to robust clinical guidelines and protocols is vital
- Mortality remains high for COVID-19 patients who present with symptomatic infection requiring oxygen. We must ensure we continue to assess and treat patients as per the evidence based guidelines.
- At risk groups have been updated in 2024
  - https://www.nice.org.uk/guidance/ta878/chapter/5-Supporting-information-on-risk-factors-for-progression-to-severe-COVID19#box-1-risk-factors-for-progression-to-severe-covid19-in-adults

Figure 2





Discussion

- High mortality (27%) in the group requiring treatment.
- Overall Adherence: Guidance followed in only 69.4% of cases which may have affected the mortality in the high risk group.
- Age did not significantly impact treatment outcomes or risk classifications.

References

https://www.nice.org.uk/guidance/ng191/chapter/update-information

https://www.nhsdghandbook.co.uk/medical-handbook/covid-19-basics/