Capturing Clinicians' Experiences Repurposing Drugs to Inform Future Studies During COVID-19

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Background

CURE ID is a mobile application and website that allows clinicians globally to share their clinical experience with the novel uses of existing drugs for patients with difficult-to-treat infections. It is designed to serve as a rapid communication platform for healthcare providers during an outbreak, allowing for systematic case-sharing and discussion, developed collaboratively by FDA and NCATS/NIH, with the support of WHO and IDSA. The current pandemic has brought great attention to both the opportunity presented by drug repurposing, as well as many of its challenges. This descriptive analysis portrays the various drugs repurposed in the treatment of patients with COVID-19, thus far on the CURE ID platform.

Methods

The CURE ID team extracted individual case reports on patient-level treatments and outcomes of COVID-19 infection from the published literature and gathered clinician-submitted cases through our electronic case report form. Additionally, CURE ID partnered with the University of Pennsylvania's CORONA database to further populate the CURE ID database with published cases.

Results

As of October 2020, a total of 521 sentinel COVID-19 cases representing initial reports of novel uses of 123 different drugs had been included in the CURE ID platform.

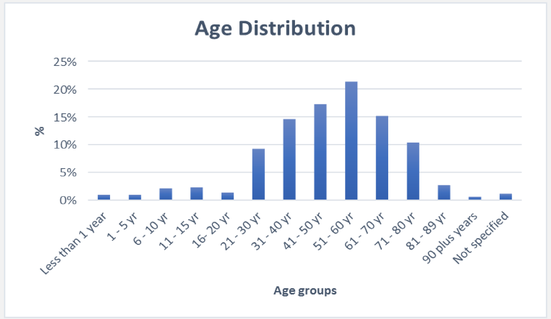
Sixty percent of the reported cases were in males. (See Figure for Age Distribution). Diabetes mellitus and hypertension were the most commonly reported comorbidities.

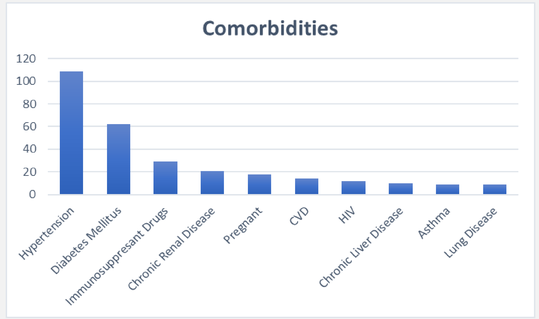
The most frequently used drugs were Hydroxychloroquine (n=199), Lopinavir-Ritonavir (n=196), and Azithromycin (n=118), followed by Umifenovir (n=76), Oseltamivir (n=71), Tocilizumab (n=62), and Methylprednisolone (n=61). Therapeutic classes of treatments reported included Antivirals (33.18%), Immune modulators (33.18%), Antibiotics (23.93%), Corticosteroids (6.16%) and Others (3.55%).

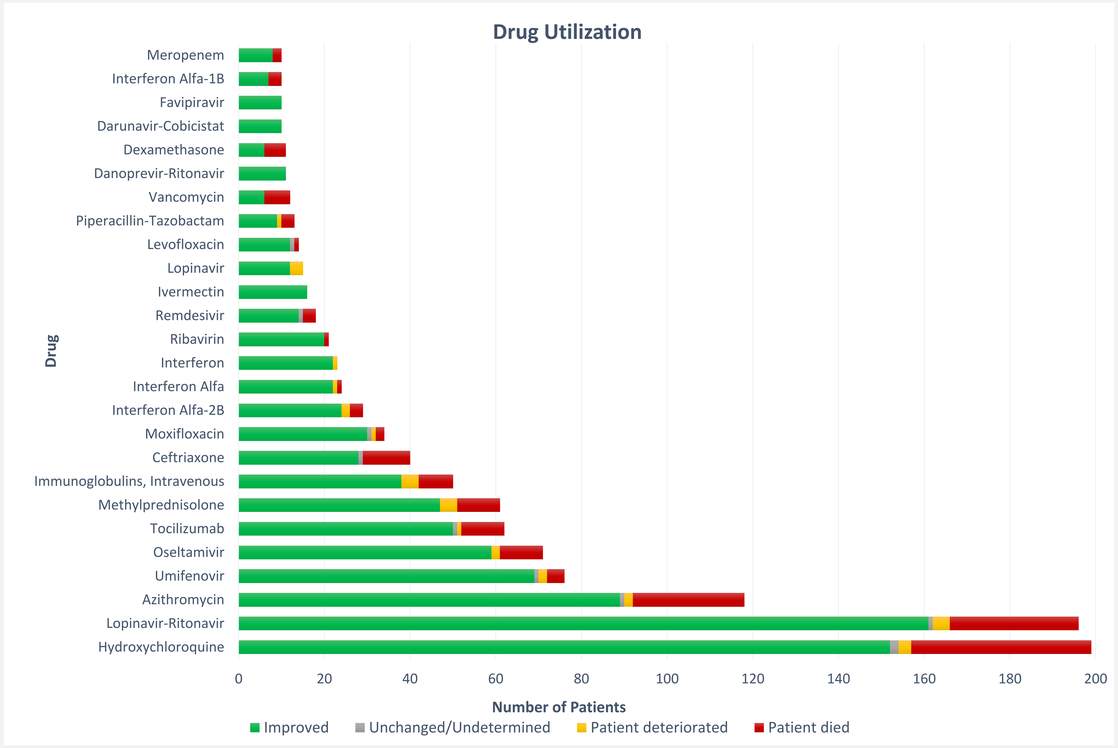
Only 31% of cases reported the severity of the patient's illness. Of the 161 cases that did describe severity, 108 were inpatients, 7 were outpatients, and 46 were in the ICU/critical care.

Overall, 83% of patients reportedly improved, however, responses could not be attributed to any specific drug due to the lack of randomization and high rates of spontaneous recovery.

Deaths ranged from 5-50% of patients across all drugs, with a total mortality rate in the sample of 14%.



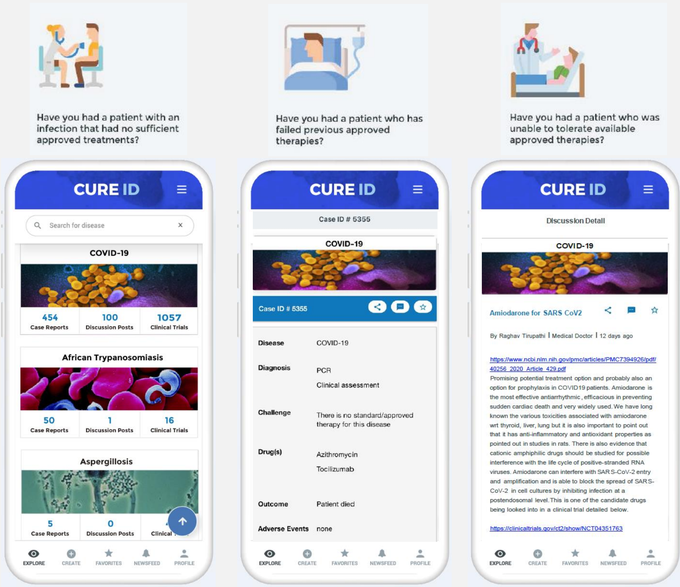




Disclaimer

This poster reflects the views of the authors and should not be construed to represent NIH or FDA's views or policies.

CURE ID Platform



Conclusions

Clinicians have shared their treatment experiences through the CURE ID platform, as well as through publication of case reports in the peer-reviewed literature.

Cases reports were gathered on patients from more than 40 different countries, in all regions of the world.

More than 100 drugs have been repurposed in an attempt to treat patients with COVID-19.

No conclusion about the efficacy of these drugs can be drawn based upon this data, given the high spontaneous recovery rates for this illness and the lack of adequately controlled studies.

Acknowledgements

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