Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Paxlovid in patients who are immunocompromised and hospitalised with SARS-CoV-2 infection

The omicron variant of SARS-CoV-2 has been reported in Shanghai, China, since March 2022. In two months, the emergence of the omicron variant has resulted in 600 000 infections and about 500 deaths, especially in older people with comorbidities.[1]

A late-breaking drug, paxlovid (oral tablets of nirmatrelvir and ritonavir, a SARS-CoV-2 protease inhibitor) has just been approved on fast-track worldwide, including China. In a phase 3 trial among patients who were unvaccinated and not hospitalised, paxlovid was shown to reduce the risk of hospitalisation or death by 89%.[2] However, evidence on paxlovid in high-risk patients who are immunocompromised is in short supply.[3]

A paxlovid registry study was done in Shanghai Renji Hospital South Campus, a COVID referral centre from April 7, 2022, to May 7, 2022, with institutional review board approval and informed consent obtained from all participants. As for the primary endpoint of the study, viral elimination was defined as both negative for ORF1ab and N genes (Ct value ≥35 by real-time PCR) on 2 consecutive days, according to local guidelines.[4] Viral elimination beyond 10 days since diagnosis of SARS-CoV-2 infection established by PCR was defined as a prolonged elimination.

Overall, 114 symptomatic patients who were hospitalised with SARS-CoV-2, with a mean age of 65·87 years, a high comorbidity rate (79%), and a low vaccination rate (26·5%) received paxlovid therapy. Three patients died within 28 days; all with a prolonged viral elimination. One patient died of respiratory failure attributed to SARS-CoV-2 infection, the other two patients died of deterioration of underlying comorbidities (appendix p 2).

Next, we did univariate and binary logistic regression to identify risk factors of prolonged viral elimination among our registry cohort. No vaccination, delayed paxlovid treatment (>5 days after diagnosis), and immunocompromised condition were independent predictors for prolonged viral elimination (appendix p 3).

There were 35 patients who were immunocompromised in our cohort, including three recipients of solid organ transplants, seven with autoimmune rheumatic conditions, three with haematological malignancies, and 22 with malignant solid tumours. Their viral elimination time was much longer than for patients who were not immunocompromised (17·29 days [6·35] *vs* 14·08 days [5·92], p=0·0050; appendix pp 4,5). Of note, paxlovid prescription within 5 days of diagnosis had a faster clearance of viral load as measured by ORF1ab viral gene replication (appendix p 3) and a shorter time to viral elimination in patients who are immunocompromised (13·67 days [5·84] *vs* 19·17 days [5·87], p=0·022; appendix pp 6,7). In addition, the correlation between timing of paxlovid initiation and viral elimination is linear (appendix p 3).

In summary, this real-life study in Chinese patients with SARS-CoV-2 infection called for action to implement early treatment of paxlovid for high-risk patients who are immunocompromised,[5] including those who are hospitalised, and unvaccinated in particular, in order to facilitate viral eradication.

The study protocol was approved by the ethics committees of Renji Hospital (2022-014-A). The study is supported by the Shanghai Hospital Development Center (SHDC; SHDC2020CR1015B) and Shanghai Municipal Health Commission (202040291). De-identified participants' data will be available on reasonable request to the corresponding author. All the authors declare no competing interests. FS and YL contributed equally to this manuscript.

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See **Online** for appendix

A prototype lateral flow assay for detection of orthopoxviruses

In 2017, human monkeypox was detected in Nigeria for the first time since 1971, with sporadic outbreaks outside Africa, including in the UK.[1] In May, 2022, the number of cases outside Africa increased substantially with clear extended human-to-human transmission apparently involving intimate contact and with the possibility of transmission by other routes, such as fomites or droplets. This finding indicates that monkeypox virus is using a new route of transmission to overcome barriers that have prevented its emergence as a non-zoonotic human pathogen.

Although the current outbreak appears to be mild in adults, young children and immunocompromised adults are at pronounced risk. UK Health Security Agency guidance[2] recommends that patients isolate until

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