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.

increased durations of surgeries and, therefore, decreased operating room efficiency will undoubtedly result.

Notably, results from this trial cannot be generalised to all types of early-stage NSCLC. The cancer must be clinical stage IA (≤2 cm) and the tumour centre must be in the outer one-third of the lung field, which makes the eligible group even smaller. However, it is noteworthy that complex basilar segmentectomies in the lower lobes were included in this trial despite that authors mention that they did not permit a basal segmentectomy. Apparently, this discrepancy reflects different nomenclatures: although most thoracic surgeons consider a basal segmentectomy removal of one to two of the four to five basilar segments in the lower lobe, the authors used the term for removal of all four basilar segments, which was not permitted because it would just leave behind segment six. Basilar segmentectomies are complex and technically more challenging than other segmentectomies, which could lead to problems for less experienced surgeons who might get lost in the lobe. Subsequently, the number of perioperative complications could easily increase, although risks could be reduced by adoption of advanced preoperative 3D-reconstructions from the patient's own CT scan to plan a safer surgery.[5]

The term sublobar resection is synonymous with a well defined anatomical segmentectomy or a simple wedge resection, which does not respect the natural anatomical limits of a segment and does not involve meticulous dissection of the segmental anatomical hilar structures, including lymph nodes. It will be interesting to know the results of the second large multicentre trial, the North American CALGB140503 trial (NCT00499330), which will be revealed in 2024. CALGB140503 is similar in setting to Saji and colleagues' study but also allowed surgeons to choose between an anatomical segmentectomy and the much easier wedge resection in the sublobar group. If results of CALGB140503 are in line with those from Saji and colleagues' study, a simple wedge resection could replace complex segmentectomies, which would increase adoption and lead to major shifts in clinical practice towards sublobar resections for very early-stage NSCLC.

I declare no competing interests.

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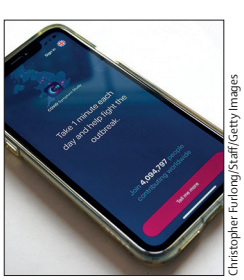
Smart apps for self-reporting clinical information

The global COVID-19 pandemic has placed unprecedented health, economic, and social pressures on nations worldwide. Following the initial Wuhan-Hu-1 variant, various genetic lineages of SARS-CoV-2 have emerged and circulated around the world, most notably the five successive variants of concern, alpha (B.1.1.7), beta (B.1.351), gamma (P.1), delta (B.1.617.2), and omicron (B.1.1.529).[1,2]

Understanding both the characteristics of COVID-19 and the dynamics of its causative variants constitutes a crucial milestone in preventing transmission and reducing infection, hospital admission, and death. Large-scale tracking tools that use simple and accessible devices and enable rapid and widespread analyses are extremely desirable.

In May, 2020, Cristina Menni and colleagues[3] reported the use of a free smartphone app to capture various self-reported symptoms, hospital admissions, results of RT-PCR or lateral flow antigen tests, demographic information, and pre-existing medical conditions, to identify the most predictive symptoms of COVID-19. This application, named ZOE, provided insight into the usefulness of COVID-19 symptom tracking.[3] Indeed, the combination of just four symptoms (anosmia, fatigue,



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Published **Online**
April 7, 2021
https://doi.org/10.1016/S0140-6736(22)00453-6

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persistent cough, and loss of appetite) allowed the identification of individuals infected in previous waves.[3]

In *The Lancet*,[4] the same team reports their use of the ZOE app to quantify the prevalence and duration of each of 32 COVID-19-related symptoms and the risk of hospital admission in individuals who had received two or three doses of any SARS-CoV-2 vaccine and who were infected during periods of either omicron or delta variant prevalence in the UK. Patients were matched 1:1 for age, gender, and vaccination dose. By comparison with other studies,[5–7] Menni and colleagues report that omicron infections were associated with less anosmia and involvement of the lower respiratory tract, and a shorter duration of the acute phase, whereas delta-infected patients had less hoarseness and sore throat.[4] Moreover, patients who received a booster vaccine had a greater reduction in symptoms and were twice as likely to recover within one week of the onset of omicron symptoms than were those who had received two doses, or those infected with delta who had received either two or three doses.[4]

This study has multiple strengths. First, it is a prospective survey with a 1:1 matching design, and uses an emerging concept, ie, real-time recording of multiple clinical symptoms based on self-reported information from the participants themselves. Second, the cohort of fully or booster-vaccinated individuals subsequently infected with either omicron or delta variants was large. And last, but not least, it was the first study to detail every symptom and duration of acute illness in every infected vaccine recipient.

Mobile apps to monitor diseases are highly valuable[8] and can easily be implemented worldwide and in various languages. However, this strategy has several limitations, as acknowledged by Menni and colleagues.[4] First, the relevance of each item did not seem to be explained to participants in order to increase their involvement and attendance, and the use of error reminders at each stage of completing the online form is important. Second, participants younger than 16 years and those with body–mass index greater than 55 kg/m² were excluded.[4] However, patients in these categories should not be overlooked when working with COVID-19. Indeed, omicron cases have been reported in patients younger than 16 years,[6] and obesity is an indisputable comorbidity factor in the severity of COVID-19. Third, patients who reported symptoms within 7 days after vaccination were excluded because symptoms in this period might reflect reactions to the vaccine and not be due to COVID-19.[4] This assumption can underestimate early post-vaccine infections.

Finally, addition of information not currently explored should be possible, such as history of a previous episode of COVID-19; possible co-infection with another respiratory pathogen; variant confirmation by screening genotyping or genomic sequencing; creation of a unique and lifetime identifier per individual; and specialised consultations for better management of participants.

As of Feb 21, 2022, COVID-19 has caused 424 718 523 confirmed cases and 5 889 150 deaths worldwide.[9] The severity of this disease and the unprecedented ability of SARS-CoV-2 to modify its genome and spread in successive waves highlights the usefulness of easy-to-use mobile apps such as ZOE to rapidly assess the characteristics of a new variant and implement optimised management measures.

We declare no competing interests.

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