

## ORIGINAL ARTICLE

## COVID OUTBREAK AND VASCULAR DISEASES

## Impact of COVID-19 on vascular patients worldwide: analysis of the COVIDSurg data

Louise HITCHMAN<sup>1</sup>\*, Matthew MACHIN<sup>2</sup>  
on behalf of The COVIDSurg Collaborative and Vascular and Endovascular Research Network‡<sup>1</sup>Academic Vascular Surgical Unit, Hull Royal Infirmary, Hull, UK; <sup>2</sup>Department of Surgery and Cancer, Imperial College London, London, UK

‡Members are listed at the end of the paper.

\*Corresponding authors: Louise Hitchman, Academic Vascular Surgical Unit, Hull Royal Infirmary, Hull, UK. E-mail: [louisehitchman@gmail.com](mailto:louisehitchman@gmail.com)

## ABSTRACT

**BACKGROUND:** The COVIDSurg collaborative was an international multicenter prospective analysis of perioperative data from 235 hospitals in 24 countries. It found that perioperative COVID-19 infection was associated with a mortality rate of 24%. At the same time, the COVER study demonstrated similarly high perioperative mortality rates in vascular surgical patients undergoing vascular interventions even without COVID-19, likely associated with the high burden of comorbidity associated with vascular patients. This is a vascular subgroup analysis of the COVIDSurg cohort.**METHODS:** All patients with a suspected or confirmed diagnosis of COVID-19 in the 7 days prior to, or in the 30 days following a vascular procedure were included. The primary outcome was 30-day mortality. Secondary outcomes were pulmonary complications (adult respiratory distress syndrome, pulmonary embolism, pneumonia and respiratory failure). Logistic regression was undertaken for dichotomous outcomes.**RESULTS:** Overall, 602 patients were included in this subgroup analysis, of which 88.4% were emergencies. The most common operations performed were for vascular-related dialysis access procedures (20.1%, N=121). The combined 30-day mortality rate was 27.2%. Composite secondary pulmonary outcomes occurred in half of the vascular patients (N=275, 45.7%).**CONCLUSIONS:** Mortality following vascular surgery in COVID positive patients was significantly higher than levels reported pre-pandemic, and similar to that seen in other specialties in the COVIDSurg cohort. Initiatives and surgical pathways that ensure vascular patients are protected from exposure to COVID-19 in the peri-operative period are vital to protect against excess mortality.*(Cite this article as:* Hitchman L, Machin M; The COVIDSurg Collaborative and Vascular and Endovascular Research Network. Impact of COVID-19 on vascular patients worldwide: analysis of the COVIDSurg data. *J Cardiovasc Surg* 2021;62:558-70. DOI: 10.23736/S0021-9509.21.12024-5)**KEY WORDS:** COVID-19; Vascular surgical procedures; Health care outcome assessment.

The coronavirus-19 (COVID-19) pandemic has had a profound impact on patients with vascular disorders. Due to concerns and uncertainty about the risk COVID-19 infection on vascular patients, who are known to have a high burden of comorbidity, several national guidelines for the management of vascular conditions were released with recommendations for major reductions in elective and urgent activity. These changes included increasing the threshold for abdominal aortic aneurysm repair, a shift to endovascular revascularization or primary amputation for critical limb threatening ischemia rather than surgical bypass,

and advising carotid endarterectomy for only those with crescendo transient ischemic attack.<sup>1,2</sup> These recommendations were largely followed by vascular centers globally.<sup>3</sup>

The original COVIDSurg collaborative landmark paper highlighted the high global 30-day mortality rate of 38.0% in patients undergoing any type of operation with a concomitant (confirmed or suspected) diagnosis of COVID-19.<sup>4</sup> The Vascular and Endovascular Research Network (VERN) collaborative COVER study further identified that any vascular patient, regardless of COVID-19 infection status, had a much higher in-hospital mortality

rate (11.0%) during the pandemic compared to an equivalent procedure performed in the pre-pandemic era.<sup>5</sup>

Patients with vascular conditions represent a population with a high burden of associated comorbidity including cardiac disease, chronic lung disorders and systemic frailty, all linked to perioperative risk. Therefore, it is hypothesized that patients undergoing vascular surgery in the COVIDSurg cohort would be at greater risk of mortality than those undergoing other types of operations. The aim of this subgroup analysis is to further examine the outcomes of the vascular subgroup during the first major COVID-19 pandemic peak and to explore whether certain patient characteristics were associated with worse outcomes.

## Materials and methods

### Recruitment

This is a subgroup analysis of the international multicenter cohort study by the COVIDSurg collaborative. The full methodological details are published in the *Lancet*.<sup>4</sup> The study was registered as a clinical audit in the UK. In other countries the study was granted appropriate approval from ethical regulatory bodies as required by the individual country's regulations.

### Inclusion

Patients who were diagnosed with, or tested positive for, COVID-19 in the 7 days prior to surgery or in the 30 days following surgery were included. For those undergoing multiple operations the surgery closest to the diagnosis of COVID-19 was considered the index procedure. Patients were prospectively recruited by clinicians at each center. Retrospective data was allowed in centers where the initial peak has already passed. COVID-19 diagnosis was made with a positive PCR test from nasal or bronchial swab samples, clinical diagnosis from a senior clinician or radiological diagnosis from a CT thorax in line with local hospital reporting protocols. If a patient with a positive clinical or radiological diagnosis went on to have a PCR test which was negative, they were excluded from the study. Anonymized record IDs with aortic pathology, lower limb pathology, carotid pathology, venous pathology or vascular support services were identified from the database and extracted.

### Outcomes

The primary outcome in this analysis was 30-day mortality. The secondary outcome was a composite of pulmonary complications including adult respiratory distress syn-

drome (ARDS), pulmonary embolism (PE), pneumonia and respiratory failure at 30 days.

### Data collection and analysis

Data was collected on the Research Electronic Data Capture (REDCap) online application. For centres without reliable internet collection, data was also collected onto paper case report forms and subsequently uploaded onto REDCap. Patient demographics, physiological parameters, operative details and diagnosis were collected. Data related to the vascular cases were extracted from the REDCap COVIDSurg database. Data analysis was undertaken using the language and statistical computing software R<sup>6</sup> utilizing additional software libraries. Simple statistics was undertaken for baseline characteristics.

Independent variables (type of procedure, diagnosis) were treated as nominal factors. Numerical data (age, baseline observations, hemoglobin, white blood cell count, c-reactive protein) were treated as continuous data to maintain power. Primary and secondary outcomes were treated as dichotomous variables. After performing simple statistics on baseline characteristics, completeness of data was interrogated with a threshold of 90% for participants and 70% for dependent variables. Logistic regression was undertaken for the primary outcome. Univariate analysis was performed on all independent variables as a prerequisite for inclusion in the multivariate analysis, a threshold of  $P < 0.1$  was set. The referencing for independent variables was deemed as the closest to physiological *e.g.*, Grade 1 in the American Society of Anesthesiologists (ASA) grade. Multivariate analysis for 30-day mortality, including all eligible independent variables was undertaken and odds ratios calculated using the subsequent coefficients.

## Results

### Patient characteristics

Demographics are shown in Table I. Data was collected prospectively between February 1<sup>st</sup>, 2020 and July 31<sup>st</sup>, 2020. A total of 602 patients from the original cohort were included. The modal age category was 70-79 years of age, with the majority of patients 50 to 79 years of age. The healthy weight range (BMI 18.5-24.9 kg/m<sup>2</sup>) was the modal BMI category, however over half of participants had a BMI over 25. Only 72 (12%) of patients were documented as being current smokers. ASA grade was 3 or greater in 523 (86.9%) of patients. The preoperative patient characteristics are shown in Table II.

### Diagnoses and preoperative investigations

The commonest diagnosis was critical limb threatening ischemia (173, 28.9%), followed by acute limb ischemia (110, 18.3%), renal failure requiring vascular access (118, 19.6%) and diabetic foot disease (87, 14.5%). Surgery for aortic pathologies made up 4.9% of procedures (N.=29) and carotid interventions 1.5% (N.=9). Frequency distribution of presenting diagnoses are illustrated in Table III. Emergency admission predominated (532, 88.4%) with few elective admissions (70, 11.6%). Vital observations were normally distributed around the physiological normal range of each variable. The mean c-reactive protein (CRP) was raised preoperatively (95.5 mg/L). Just under a third of patients had a preoperative oxygen requirement (182, 30.2%) with 12.6% (N.=76) requiring ventilation (mechanical or non-invasive).

The most common procedure type performed was vascular access related operations for dialysis (20.1%, N.=121). The most common revascularization procedure was lower limb thromboembolism (11.0%, N.=66). Mean length of stay was 15.9±12.7 days.

### 30-day mortality

The overall 30-day mortality rate for all vascular patients was 26.2%. Mortality for a diagnosis related to aortic aneurysm was 25% (5/20) and for aortic dissection was 11.1% (1/9). Mortality related to lower limb pathology was 27.2% (47/173) for critical limb ischemia, 40.9% (45/110) for acute limb ischemia and 26.4% (23/87) for diabetic foot associated disease (infection). Mortality related to a carotid pathology was 44.4% (4/9) and 20.7% (19/92) for vascular support services. The mortality for each diagnosis is shown in Table III.

The overall 30-day mortality rate following a vascular procedure was 27.2%. The highest mortality was following fasciotomy (100%, 1/1), arterial catheter directed thrombolysis (50%, 3/6) and upper limb amputation (50%, 1/2). The mortality for each procedure is shown in Table IV.

### Composite outcome

The composite outcome (mortality, pneumonia, ARDS, respiratory failure and pulmonary embolism) occurred in nearly half of the included patients (45.7%, N.=275).

### Respiratory complications

A peri-operative diagnosis of pneumonia was documented in 32.1% (193) of vascular patients, 14.1% (N.=85) of whom went on to develop ARDS. Respiratory failure oc-

TABLE I.—Demographic data of coronavirus disease 2019 (COVID-19)-positive patients undergoing vascular surgery.

Parameter	N.	%
<b>Sex</b>		
Female	181	30.1%
Male	421	69.9%
<b>Age group</b>		
1-9 years	1	0.2%
10-19 years	3	0.5%
20-29 years	10	1.7%
30-39 years	21	3.5%
40-49 years	56	9.3%
50-59 years	114	18.9%
60-69 years	142	23.6%
70-79 years	164	27.2%
80-89 years	77	12.8%
90+ years	14	2.3%
<b>Body Mass Index</b>		
BMI <18.5 kg/m <sup>2</sup>	29	4.8%
BMI 18.5-24.9 kg/m <sup>2</sup>	189	31.4%
BMI 25-29.9 kg/m <sup>2</sup>	172	28.6%
BMI 30-34.9 kg/m <sup>2</sup>	93	15.4%
BMI 35-39.9 kg/m <sup>2</sup>	38	6.3%
BMI ≥40 kg/m <sup>2</sup>	16	2.7%
Not stated	65	10.8%
<b>Pre-existing respiratory risk factors</b>		
Smoker	72	12.0%
Pre-existing respiratory disease	94	15.6%

BMI: Body Mass Index.

TABLE II.—Preoperative participant characteristics.

Baseline observations	Mean±SD / N. (%)
Respiratory rate	18.8±5.5
Heart rate	85.7±18.4
Systolic blood pressure (mmHg)	133.0±25.1
Diastolic blood pressure (mmHg)	72.7±15.5
<b>Baseline blood parameters</b>	
Hemoglobin	106.0±24.5
White cell count	11.4±6.3
C-reactive protein (units)	97.5±101.4
<b>Operative urgency</b>	
Elective	70 (11.6%)
Emergency	532 (88.4%)
<b>Preoperative oxygen/ventilatory requirement</b>	
No support	342 (56.8%)
Oxygen	182 (30.2%)
Ventilated	76 (12.6%)
Not stated	2 (0.3%)

curred in 20.3% (N.=122), and pulmonary embolism was diagnosed in 2.0% of patients (N.=12).

### Outcome associations

Following a univariate analysis for 30-day mortality, the following independent variables had a P value <0.1 and



TABLE III.—Summary of diagnoses and associated mortality.

Diagnosis	N.	Mortality
<b>Aortic pathologies</b>		
Abdominal aortic aneurysm $\geq 5.5$ cm in maximal diameter, asymptomatic or non-urgent	0	0 (0.0%)
Aortic aneurysm urgent (e.g. ruptured or patient presenting with pain)	10	3 (30.0%)
Aortic aneurysm of undetermined urgency	10	2 (20.0%)
Type A aortic dissection	2	0 (0.0%)
Type B aortic dissection or thoracoabdominal aneurysm or acute aortic syndrome or traumatic aortic injury	7	1 (14.3%)
<b>Lower limb pathologies</b>		
Severe claudication or chronic limb-threatening ischemia	173	47 (27.2%)
Acute limb ischemia	110	45 (40.9%)
Compartment syndrome	1	1 (100.0%)
Diabetic foot infection or ulceration	87	23 (26.4%)
<b>Carotid pathologies</b>		
Symptomatic carotid artery disease (atherosclerotic)	5	1 (20.0%)
Carotid artery disease (atherosclerotic) (symptomology not stated)	4	3 (75.0%)
<b>Venous pathologies</b>		
Deep vein thrombosis	4	0 (0.0%)
Venous leg ulceration	3	0 (0.0%)
<b>Vascular support services</b>		
Trauma (including iatrogenic line injuries)	21	6 (26.6%)
Vascular access	118	24 (20.3%)
Others/not stated	45	8 (18.2%)

TABLE IV.—Summary of operations performed and associated mortality.

Operations performed	N.	Mortality
Above knee amputation (including through knee)	44	14 (32.6%)
Arterial catheter directed thrombolysis	6	3 (50.0%)
Below knee amputation	41	11 (26.8%)
Carotid endarterectomy	9	4 (44.4%)
Diagnostic angiogram	1	0 (0.0%)
EVAR	10	2 (20.0%)
Exploration for trauma	20	6 (30.0%)
Fasciotomy	1	1 (100.0%)
Forefoot amputation	9	0 (0.0%)
Hybrid TEVAR	3	1 (33.3%)
Infra-inguinal angioplasty	20	6 (30.0%)
Infra-inguinal bypass	36	11 (30.6%)
Infra-inguinal endarterectomy $\pm$ patch	14	3 (21.4%)
Lower limb thromboembolectomy	66	28 (42.4%)
Major lower limb amputation (not specified)	57	18 (31.6%)
Minor amputation of digit/toe(s)	50	13 (27.1%)
Open infrarenal aneurysm repair	6	1 (16.7%)
Repair of pseudoaneurysm	9	1 (11.1%)
TEVAR	5	1 (20.0%)
Total arch replacement	2	0 (0.0%)
Upper limb amputation	2	1 (50.0%)
Upper limb thromboembolectomy	20	7 (35.0%)
Vascular access-related procedure	121	23 (19.0%)
Venous catheter directed thrombolysis/perc thrombectomy	1	0 (0.0%)
Wound debridement and washout	36	8 (22.2%)
Other, vascular	13	1 (7.7%)

met criteria for inclusion in the multivariate analysis: age, ARDS, ASA, baseline comorbidities, chest X-ray status, CRP, diagnosis, dialysis status, hemoglobin, preoperative ventilatory requirements, preoperative respiratory disease, treatment status and white cell count. CRP level was at threshold for completeness of data (70%). To alleviate concerns regarding the subsequent removal of participants with inclusion of CRP, the multivariate analysis was performed with and without this factor. The outcome did not differ and hence CRP was included in the multivariate analysis due to its clinical significance and associated P value in the univariate analysis.

Multivariate analysis revealed ARDS, CRP and need for dialysis was associated with 30-day mortality (Table V). The remaining included factors failed to reach significance. Development of ARDS had an associated odds ratio of 8.52 for mortality (95% CI 1.40-14.5,  $P < 0.001$ ). Need for dialysis (but not at 30 days), with no dialysis as the reference level, was associated with an odds ratio of 3.66 (95% CI 1.40-9.87,  $P < 0.01$ ). Conversely, for per incremental day length of stay, there was an associated odds ratio of 0.95 (95% CI 0.89-0.96,  $P < 0.001$ ). Procedure type was not significantly associated with mortality.

TABLE V.—Significant independent variables in the multivariate analysis for 30-day mortality.

Independent variable	Odds ratio	P value
ARDS	8.52 (CI: 1.40-14.5)	$< 0.001$
Need for dialysis, but not at 30 days	3.66 (CI: 1.40-9.87)	$< 0.01$
Length of stay	0.95 (CI: 0.89-0.96)	$< 0.001$

ARDS: adult respiratory distress syndrome.

## Discussion

This subgroup analysis of vascular procedures from the COVIDSurg collaborative study showed vascular patients who go on to develop a confirmed or suspected diagnosis of COVID-19 perioperatively have a high 30-day mortality rate. This study supports the current knowledge that pulmonary complications, on a background of having a diagnosis of COVID-19 are associated with a higher mortality.<sup>4</sup>

Older age, male sex, and the presence of comorbidities such as cardiovascular disease, diabetes, and smoking are all risk factors for vascular disease, as well as being identified as significant risk factors for inpatient mortality in patients diagnosed with COVID-19.<sup>4</sup> Therefore, it could be hypothesized that vascular patients undergoing vascular

This document is protected by international copyright laws. No additional reproduction is authorized. It is permitted for personal use to download and save only one file and print only one copy of this Article. It is not permitted to make additional copies (either sporadically or systematically, either printed or electronic) of the Article for any purpose. It is not permitted to distribute the electronic copy of the article through online internet and/or intranet file sharing systems, electronic mailing or any other means which may allow access to the Article. The use of all or any part of the Article for any Commercial Use is not permitted. The production of derivative works from the Article is not permitted. It is not permitted to remove, cover, overlay, obscure, block, or change any copyright notices or terms of use which the Publisher may post on the Article. It is not permitted to frame or use framing techniques to enclose any trademark, logo, or other proprietary information of the Publisher.

surgery with a concomitant diagnosis of COVID-19 would be at greater risk of death than those undergoing other types of surgery. However, this was not found to be the case.

### Contrasting with normal practice

Within the UK, contemporary estimates from the National Vascular Registry suggest that the 30-day mortality rate of carotid endarterectomy to be as low as 0.3%.<sup>7</sup> This is scales different to the mortality rate of 44.4% reported in this cohort, even when considering the relatively small number of included procedures. Furthermore, the National Vascular Registry reported that in-hospital mortality rates for abdominal aortic aneurysm repair and peripheral arterial vascular procedures performed during the coronavirus-19 pandemic was as high as 42.6% for patients with COVID-19 and a coinciding respiratory complication.<sup>8</sup> This is not dissimilar to the 42.4% 30-day mortality for those undergoing lower limb thromboembolism in this cohort. These findings are over double the mortality rate reported in COVER study which found an all-cause mortality of 15.2% for aortic surgery and 20.4% of lower limb revascularization for acute limb ischemia.<sup>5</sup> For those with COVID-19 requiring hospitalization and surgery, outcomes in vascular surgery appear to be consistently poor, but in line with the outcomes reported for all surgery patients reported from the COVIDSurg cohort.

Meta-analysis data for rates of in-hospital mortality for any patient with coronavirus disease has been reported at 15% (95% CI: 13 to 17), with an eight-fold risk increase for those who went on to develop ARDS.<sup>9</sup> Our study found almost double the mortality rate, potentially relating to a higher risk and more comorbid patient population. The risk of mortality in those with ARDS was very similar. In the cohort reported here, the significant factors in this cohort can be related to severity of clinical condition due to COVID-19, as well as their vascular presentation: ARDS and need for dialysis (with exception of length of stay). This suggests that indicators of mortality were also indicators of severe COVID-19.

This subgroup analysis suggests that for those vascular inpatients with COVID-19 undergoing any kind of procedure, the outcomes are poor. Given that operative mortality was similar across all genres of procedures, a vascular access-related procedure taking some 45 minutes was no different to that of an infrainguinal bypass, it may well have not been the vascular operation that results in poor outcomes. International guidance released by several vascular societies recommended delays to non-essential surgery, with global vascular data confirming a significant

drop-in vascular activity during the initial peak.<sup>3</sup> Therefore it can be assumed that only patients presenting with the most severe vascular disease, requiring urgent intervention that could not be delayed, were operated on and therefore included in this cohort.

Evidence continues to suggest that diagnosis of COVID-19 is linked to an increased risk of systemic thrombotic complications, and an associated rise in the need for vascular intervention.<sup>10,11</sup> Admission to intensive care unit (ICU) with COVID-19 and a subsequent thrombotic complication has been associated with mortality rates as high as 59.8%.<sup>9,12</sup>

### Should we intervene?

The poor outcomes reported in this prospective cohort raises the question of risk *versus* benefit for surgical intervention, and whether intervening in this patient group worsens their clinical condition. However, as is discussed, there is little evidence to suggest that vascular procedures themselves are causal in these outcomes. The clinical decision to undertake a procedure will have been based on the risk of surgery and concomitant COVID-19 diagnosis, against the risk to life and/or limb associated with conservative management.

### Limitations of the study

This is an observational study that attempts to describe the observed outcomes, however, is unable to establish causality. Additionally, there is a considerable selection bias as all those included in this cohort underwent a vascular procedure — the decision-making process that led to operative management tends to exclude those who are deemed too high-risk to offer an intervention. This likely falsely improved some of the reported outcomes which may have been worse if all those with a diagnosed vascular pathology (unoperated) were included. Data relating to patients who were not operated on will be available from future COVER study reports. Within this cohort, there is a large skew towards lower limb procedures - hence all conclusions should weigh towards this patient group. There were very few patients included with aortic pathologies. Furthermore, data was incomplete for some independent variable (<70% completeness) precluding their inclusion in the multivariate analysis.

### Conclusions

A concomitant diagnosis of COVID-19 in patients undergoing a vascular surgical procedure had poor postopera-

tive outcomes, with high 30-day mortality. It is unclear the impact of performing procedures on patient outcomes. It must be considered that these outcomes could be related to the need for intervention in the context of being hospitalized with COVID-19, rather than the extent of the intervention itself.

## References

1. The Vascular Society of Great Britain and Ireland. COVID-19 virus and vascular surgery; 2020 [Internet]. Available from: [https://www.vascularsociety.org.uk/professionals/news/113/covid19\\_virus\\_and\\_vascular\\_surgery](https://www.vascularsociety.org.uk/professionals/news/113/covid19_virus_and_vascular_surgery) [cited 2021, Oct 13].
2. American College of Surgeons. COVID-19 Guidelines for Triage of Vascular Surgery Patients; 2020 [Internet]. Available from: <https://www.facs.org/covid-19/clinical-guidance/elective-case/vascular-surgery> [cited 2021, Oct 13].
3. Vascular and Endovascular Research Network (VERN) COVER study collaborative\*. Global impact of the first coronavirus disease 2019 (COVID-19) pandemic wave on vascular services. *Br J Surg* 2020;107:1396–400.
4. COVIDSurg Collaborative. Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: an international cohort study. *Lancet* 2020;396:27–38.
5. Benson RA, Nandhra S; The Vascular and Endovascular Research

Network (VERN) COVID-19 Vascular Service (COVER) Tier 2 Study. Outcomes of Vascular and Endovascular Interventions Performed During the Coronavirus Disease 2019 (COVID-19) Pandemic. *Ann Surg* 2021;273:630–5.

6. R Core Team. R: A language and environment for statistical computing. R Foundation for Statistical Computing; 2021 [Internet]. Available from: [www.R-project.org](http://www.R-project.org) [cited 2021, Oct 13].
7. Waton S, Johal A, Heikkila K, Cromwell D, Boyle J, Miller F. National Vascular Registry Annual Report 2019; 2019 [Internet]. Available from: <https://www.vsqip.org.uk/reports/2019-annual-report/> [cited 2021, Oct 13].
8. Cromwell DB, Johal A, Li Q, Waton S, O'Neill R, Williams R, *et al*. Impact of COVID-19 disease on the provision of vascular surgery in the UK National Health Service in 2020; 2021 [Internet]. Available from: <https://www.vsqip.org.uk/content/uploads/2021/05/NVR-Short-Report-COVID-19-May-2021-Update.pdf> [cited 2021, Oct 13].
9. Abate SM, Checkol YA, Mantefardo B. Global prevalence and determinants of mortality among patients with COVID-19: A systematic review and meta-analysis. *Ann Med Surg (Lond)* 2021;64:102204.
10. Bilaloglu S, Aphinyanaphongs Y, Jones S, Iturrate E, Hochman J, Berger JS. Thrombosis in Hospitalized Patients With COVID-19 in a New York City Health System. *JAMA* 2020;324:799–801.
11. Bissacco D, Grassi V, Lomazzi C, Domanin M, Bellosta R, Piffaretti G, *et al*. Is there a vascular side of the story? Vascular consequences during COVID-19 outbreak in Lombardy, Italy. *J Card Surg* 2021;36:1677–82.
12. Castro P, Palomo M, Moreno-Castaño AB, Fernández S, Torramadé-Moix S, Pascual G, *et al*. Is the Endothelium the Missing Link in the Pathophysiology and Treatment of COVID-19 Complications? *Cardio-vasc Drugs Ther* 2021. [Epub ahead of print]

**Conflicts of interest.**—The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

**Funding.**—The original COVIDSurg study acknowledges funding from the following: National Institute for Health Research (NIHR), Association of Coloproctology of Great Britain and Ireland, Bowel and Cancer Research, Bowel Disease Research Foundation, Association of Upper Gastrointestinal Surgeons, British Association of Surgical Oncology, British Gynaecological Cancer Society, European Society of Coloproctology, NIHR Academy, Sarcoma UK, Vascular Society for Great Britain and Ireland, and Yorkshire Cancer Research.

**Authors' contributions.**—All authors read and approved the final version of the manuscript.

**Group name.**—Members of the group include the following. VERN Executive Committee: Graeme AMBLER; Ruth BENSON; Panagiota BIRMPILI; Robert BLAIR; David BOSANQUET; Nikesh DATTANI; George DOVELL; Rachael FORSYTHE; Brenig GWILYM; Louise HITCHMAN; Matthew MACHIN; Sandip NANDHRA; Sarah ONIDA; Ryan PREECE; Joseph S. SALIM; Thanos SARATZIS; SHALHOUB; Aminder SINGH. COVIDSurg Operations Committee: Leah ARGUS; Aneel BHANGU; Daoud CHAUDHRY; Brett E. DAWSON; James C. GLASBEY; Rohan R. GUJJURI; Conor S. JONES; Sivesh K. KAMARAJAH; Chetan KHATRI; James M. KEATLEY; Samuel LAWDAY; Elizabeth LI; Harvinder MANN; Ella J. MARSON; Kenneth A. MCLEAN; Dmitri NEPOGODIEV; Maria PICCIOCHI; Kwabena SIAW-ACHEAMPONG; Joana F. SIMOES; Elliott H. TAYLOR; Abhinav TIWARI; Isobel M. TROUT; Mary L. VENN; Richard J. WILKIN. COVIDSurg Dissemination Committee: Tom E. ABBOTT; Sadi ABUKHALAF; Adesoji ADEMUYIWA; Ahmed ADIL; Arnab AGARWAL; Felix AIGNER; Zainab AL BALUSHI; Hamza AL NAGGAR; Ehab ALAMEER; Markus ALBERTSMEIERS; Osaid ALSER; Sattar ALSHRYDA; Alexis ARNAUD; Gustavo ATAIDE; Knut M. AUGESTAD; Faris AYASRA; José AZEVEDO; Glauco BAIOCCHI; Sylvia BATISTA; Ruth BENSON; Ruth BLANCO COLINO; Luis BOCCALATTE; Eduard-Alexandru BONCI; Amanpreet BRAR; Kerry BREEN; Peiman BROUK; Igor BUARQUE; Jose CALVACHE; Ed CARUNA; Mohammad CHAAR; Sohini CHAKRABORTEE; Peter CHRISTENSEN; Daniel COX; Moises CUKIER; Miguel CUNHA; Irida DAJTI; Ana DANIC HADZIBEGOVIC; Mustafa A. DARAGHMEH; Andreas DEMETRIADES; Anant DESAI; Thomas D. DRAKE; John G. EDWARDS; Sergey EFETOV; Muhammed ELHADI; Alaa EL-HUSSUNA; Mohammed ELMUJTABA; Sameh H. EMILE; Jonathan P. EVANS; Ildar R. FAKHRADIYEV; Marco FIORE; Samuel FORD; Christina FOTOPULOU; Gaetano GALLO; Ian GANLY; Dhruv GHOSH; Arben GJATA; Muhammad GOHAR; Hugo GOMEZ; Gustavo GRECINOS; Ewen GRIFFITHS; Aiste GULLA; Samuel HAILU; Chew M. HOE; Kamral HOSSAIN; Peter HUTCHINSON; Arda ISIK; Mohammad JAMAL; Umesh JAYARAJAH; William JEBRIL; Michael D. JENKINSON; Pascal JONKER; Haytham KAAFARANI; Joonas KAUPPILA; Gabriele KEMBUAN; Brittany KENDALL; Tabassum KHAN; Mohammad KHOSRAVI; Jaroslav KLAT; Stephen KNIGHT; Angelos KOLIAS; Tomislav KOPIJAR; Irmgard KRONBERGER; Schelto KRUIJFF; Johanna LAUKKARINEN; Ismail LAWANI; Hans LEDERHUBER; Elaine LEUNG; Sezai LEVENTOGLU; Eddy LINCANGO; Andrey LITVIN; Markus LOFFLER; Maria A. LORENA; Piotr MAJOR; Janet MARTIN; Laura MARTINEZ; Hassan MASHBARI; Dennis MAZINGI; Siobhan MCKAY; Mengistu G. MENGESHA; Tamas MERSICH; Symeon METALLIDIS; Jakov MIHANOVIĆ; Ana MINAYA-BRAVO; Maria M. MODOLO; Helen M. MOHAN; Rachel MOORE; Masoud MOZAFARI; Ionut NEGOI; Ncamsile NHLABATHI; Milou NOLTES; Lisa NORMAN; René NOVYSEDLAK; Faustin NTIRENGANYA; Maricarmen OLIVOS; Babatunde OSINAIKE; Riinu OTS; Oumaima OUTANI; Marie D. PARRENO-SACDALAN; Francesco PATA; Sofija PEJKOVA; Gianluca PELLINO; Carlos J. PEREZ RIVERA; Peter POCKNEY; Ahmad QURESHI; Dejan RADENKOVIC; Vidya RAGHAVAN; Antonio RAMOS DE LA MEDINA; Keith ROBERTS; April ROSLANI; Martin RUTEGÅRD; Irene SANTOS; Sohei SATOI; Raza SAYYED; Andrew SCHACHE; Justina SEYI-OLAJIDE; Katie SHAW; Richard SHAW; Sebastian SHU; Mihail SLAVCHEV; Neil SMART; Kjetil SOREIDE; Pieter STEINKAMP; Grant STEWART; Malin SUND; Sudha SUNDAR; Stephen TABIRI; Hailu TAMIRU; Philip TOWNEND; Georgios TSOULFAS; Willemijn VAN DER PLAS; Gabrielle VAN RAMSHORST; Ximena VASQUEZ; Dale VIMALCHANDRAN; Daniel WETTSTEIN; Dakshitha WICKRAMASINGHE; Emmanuel WILLIAMS; Naomi WRIGHT; Frederick K. XIANG; James N. YONG; Ahmad ZAROUR; Oded ZMORA; EuroSurg; European Society of Coloproctology (ESCP); GlobalSurg; GlobalPaedSurg; ITSURG; PTSurg; SpainSurg; Italian Society of Colorectal Surgery (SICCR); Association of Surgeons in Training (ASiT); Irish Surgical Research Collaborative (ISRC); Joana F. Simoes. Collaborators: Y. AAWSAJ; A. ABAD-GURUMETA; A. ABAD-MOTOS; S. ABAS; J. ABASSY; E. ABATE; C. ABATINI; J. ABBA; F. ABBADESSA; A.M. ABBAS; F.



ABBAS; F.M. ABBAS; A. ABBAS; A. ABBASOV; S. ABBOTT; T. ABBOTT; H.A. ABD ELAZEEM; N.N. ABD KAHAR; H. ABDALAZIZ; M. ABDAL-  
 LA; E.A. ABDALLAH; M. ABDALLAH; L. ABDEH; S. ABDEL AL; R. ABDEL JALIL; S.A. ABDELAAL; S. ABDELZAIEM MUSTAFA; M. ABDEL-  
 BARI; M. ABDELKAREEM; M.M. ABD-ELKAREM; A.Y. ABD-ELKARIEM; M. ABDELKARIM; A. ABDELMAJEED; A. ABDELRAHMAN; S. AB-  
 DELRHMAN; K. ABDELSAID; S. ABD-ELSALAM; A. ABDELSAMED; H. ABDU; N. ABDUL MAJ; F. ABDULFATTAH; H. ABDUL-JABAR; I.H.  
 ABDULLAHI; E. ABDULWAHED; L. ABDUR-RAHMAN; M.K. ABEL; A. ABELEVICH; M. ABELLAN; O.H. ABIYERE; A. ABOELKASSEM IBRA-  
 HIM; A. ABOOD; N.E. ABOUSAMAK; M.K. ABOU CHAAR; A. ABOUASSI; A.K. ABOU-FOUL; J. ABOU-KHALIL; H. ABOULKASSEM; S. ABRAMO-  
 WICZ; A. ABRATE; A. ABREU DA SILVA; M. ABU HAMRA'A; F.J. ABU ZANOUNEH; M. ABUALJADAYEL; Z. ABUAL-RUB; M. ABUBAKAR; S.A.  
 ABUKHALAF; I. ABU-NAYLA; A. ABUOWN; A. ABUTAKA; F. ACEBES GARCÍA; M. ACHALANDABASO BOIRA; M. ACHARYA; A.S. ACIKGOZ;  
 M.A. ACOSTA MÉRIDA; J. A' COURT; A. ADAMEC; A. ADAMEC; M. ADAMINA; L. ADAMOLI; E. ADDAE-BOATENG; A. ADISSIE; I.O. ADEBA-  
 RA; S. ADEGBOLA; N. ADELEKE; A.O. ADEMUYIWA; A.S. ADENIRAN; A.A. ADENIYI; O.T. ADEYEMO; A. ADEYEYE; A. ADEYEYE; A. ADIA-  
 MAH; A. ADMASU; R. ADVANI; B.B. AFOLABI; M. AFONSO-GARCIA; S. AFROZE; R. AFTAB; M. AGAPOV; K. AGARWAL; A. AGGARWAL; K.  
 AGHABABYAN; E.T. AGIDA; J. AGILINKO; I. AGLEDAHL; A. AGNES; O. AGODIRIN; C. AGOSTINI; P. AGOSTIN; S. AGRAWAL; H.J. AGUADO  
 H. AGUADO LOPEZ; J.L. AGUAYO-ALBASINI; S. AGUIAR JR; A. AGUILAR; J. AGUILAR-JIMENEZ; M.L. AGUILERA-ARÉVALO; L. AGUZZOLI;  
 S. AHAD; T.M. AHERNE; Y. AHMAD; N. AHMADI; Y.M. AHMED; A. AHMED; K. AHMED; K. AHMED; I. AHMED; I. AHMED; A. AHMEIDAT; A.L.  
 AIDAR; E. AIGBIVBALU; F. AIGNER; A. AIME; A. AIREY; E. AITKEN; O.G. AKABA; M. AKALIN; E. AKAYDIN; A. AKBAR; A. AKBAS; M.A.  
 AKHTAR; E. AKIN; A. AKINMADE; A. AL ANSARI; S. AL AWWAD; A. AL AYED; A. AL FAKHRI; M. AL FARSI; I. AL HASAN; R. AL RADDADI; S.  
 AL RIYAMI; M. AL TARAKJI; S. ALAA; J. ALABBAD; A. ALADEOJEBI; N. ALAJAJI; Y. ALALAWI; R. ALAM; E. ALAMEER; S. AL-AMERI; O.  
 ALAMRI; F. ALANAZI; A. ALANBUKI; A. ALARABI; A. ALASMARI; K. ALAWI; F. ALAWNEH; D. ALAZAWI; M. AL-AZZAWI; I. ALBADER; M.A.  
 ALBADER; F. ALBAQAMI; A.A. ALBAROUDI; A. ALBDAH; M. ALBERTSMEIER; B. ALBI MARTIN; V. ALBINO; A. ALBURAKAN; F. ALCAIDE  
 MATAS; F. ALCONCHEL; M. ALDAKHEEL; M. ALDAWBALI; K. ALDRIDGE; G. ALEMANN; S. AL-EMBIDEEN; M.E. ALEXANDER; V.  
 ALEXOUDI; J. ALFAIFI; O. ALFARHAN; A. ALFARO-GOLDARACENA; S. ALFIERI; R. ALFKY; J.P. ALFONSO; A. ALGÁ; A. ALGHAMDI; R.  
 ALGHAMDI; A. ALGHULIGA; W. ALHADDAD; A. ALHAMED; Y. AL-HARAZI; A. AL-HARBAAWEE; A. AL-HARBAWI; A. ALHARBI; R. AL-  
 HARTHI; A. ALHEFDHI; A. ALHOJAILI; R. ALHOSSAINI; A.K. ALI; L. ALI; L. ALI; H.B. ALI; S.M. ALI; E.E. ALI; S. ALI; M. ALI; S. ALI; A.A. ALI  
 KARAR; M. ALIAGA-RAMOS; A. ALISSA; Z. ALIYEVA; F. ALJABER; F. ALJANADI; R. ALJOHANI; E. AL-KHARASHI; A. ALKHUZAIE; N. AL-  
 KREDEES; A.Y. ALLAN; A. ALLANA; M. ALLEN; M. ALLEN; M. ALLEN; J. ALLISON; H. ALMABROUK; S. AL-MAQTARI; M. ALMASRI; M.  
 AL-MASRI; A.C. ALMEIDA; J.I. ALMEIDA; A. ALMEIDA; J. ALMEIDA-PINTO; R. ALMEIDA-REIS; N. ALMGLA; A. ALMHMADI; A. ALMOFAR-  
 REH; M. ALMOND; C. ALMONDO; A. AL-MUKHTAR; A.S. ALMULHIM; S. ALMUTRAFI; H. AL-NAGGAR; H. AL-NAJJAR; A.Q. ALNAMI; M.  
 ALNEMARY; K. ALNWIJY; S. ALOBAYSI; H. AL-OMISHY; N. ALONSO DE LA FUENTE; P. ALONSO ORTUÑO; A. ALONSO POZA; L. ALONSO-  
 LAMBERTI; M. ALOTAIBI; J. ALOWAIS; N. ALPERT; S. ALQAHTANI; A. ALQALLAF; M. ALQANNAS; S. ALQASEM; M. AL-QATTAN; M. ALRA-  
 HAWY; M. ALRAMADHAN; M. ALRASHED; F. ALRESAINI; H. ALSAADI; T. ALSABAHI; N. ALSAHAN; M. ALSAKKAF; A. AL-SAMARAE; O.  
 ALSARAIREH; M. ALSAYADI; R. ALSAYADI; O. ALSER; M. ALSHAHRANI; A. ALSHAHRANI; M. ALSHALHOUB; S. ALSHANAFEY; F. ALSHAR-  
 IF; M. ALSHEHARI; M. ALSHEHRI; A. ALSHEHRI; A. ALSHITWI; S. ALSHRYDA; A. ALSOUFI; K. ALSOWAINA; A. ALSUHAIBANI; A. AL-SU-  
 KAINI; T. ALTAHAN; Y. AL-TAMIMI; W. ALTHOBAITI; Y. ALTINEL; F. ALTINTOPRAK; D.F. ALTOMARE; M.R. ALVAREZ; E. ALVAREZ; R. ALVES;  
 A. ALVI; A. ALWADIYA; M. ALYAMI; M. AL-YASEEN; M. ALYAZIDI; A. ALZAHIRANI; A. ALZAHIRANI; N. ALZARONI; A. ALZETANI; B. AL-  
 ZOMAILI; A. ALZOUHIR; M.J. AMARAL; G.K. AMBLER; P. AMEERALLY; D. AMIN; N. AMIN SAHID; G. AMIRA; J.E. AMORIM; L. AMORIM  
 BRAZ; L. AMPOLLINI; A. AMRO; E. AMZALLAG; G. ANANIA; A. ANASTASI; F. ANAZOR; T. ANDABAKA; C. ANDERSON; R. ANDRADE; L.  
 ANDREANI; S.M. ANDREANI; A. ANDRONIC; I.A. ANEKE; Z. ANG; E. ANG; K. ANG; N. ANGANMUTHU; J. ANGEL; D. ANGELOU; N. ANJAR-  
 WALLA; S. ANNAMALAI; V. ANNESSI; J. ANNETT; A. ANNICCHIARICO; M. ANSARIN; N. ANSCOMB; M. ANTAR; J. ANTHONY; C. ANTHOU-  
 LAKIS; M. ANTHUBER; B.T. ANTON-EGUÍA; B. ANTONELLI; K. ANTONIADIS; A. ANTONIOU; M.I. ANTONOPOULOU; J. ANTUNES; R. ANU-  
 LA; S. ANWAR; A. ANZAK; S.G. AOUN; A.A. APAMPA; A. APRILE; F. AQUILA; N. ARAB; E.J. ARAGON ACHIG; J. ARAGON-CHAMIZO; R. ARAM;  
 M.S. ARAUJO; D.H. ARAUJO; J.E. ARCHER; L.L. AREIAS; M. AREMU; I. AREMU; G. ARESU; C. ARICAN; M. ARIGONI; S. ARKANI; Y. ARKHA;  
 T. ARMAO; G. ARMATURA; A. ARMINIO; A.P. ARNAUD; R. ARRANGO; M. ARRIETA; A. ARROYO; E. ARRO; E. ARRO; E. ARRO; E. ARRO; E. ARRO;  
 THAM; M. ARUMUGASAMY; P. ASAAD; F. ASCARI; J. ASCENAO; S. ASGHAR; J. ASHCROFT; S. ASHER; C. ASHMORE; F. ASHOUSH; M.  
 ASHRAF; M. ASHRAF; A. ASKARI; Q. ASODISEN; A. ASQALAN; M. ASSAF; H. ASSALAARACHCHI; E. ASTI; I. ASTREIDIS; B. ATANASOV; E.  
 ATHANASAKIS; R. ATHAYDE NEMÉSIO; P.O. ATHMANABAN; H. ATIF; A. ATIYA; K.M. ATOBATELE; O. ATOYEBI; R. ATTA; L. ATTWELL; E.  
 AUBRY; A. AUJAYEB; E.K. AVCI; R. AVELLANA; S. AVERBACH; S. AWAD; M. AWADALLAH; M. AWADKARIM; F. AYASRA; Y. AYASRA; A.  
 AYAC; C. AYDIN; F. AYENI; Y. AYKANAT; A. AYMAN; J. AYORINDE; E. AYTAC; B. AYUB; A. AYUBI; E. AYUBO HERRERA; M. AYYAZ; M. AZAB;  
 P. AZEVEDO; M.G. AZIZELDINE; A.Y. AZZAM; J. BAAJI; O.F. BABALOLA; C. BABAN; M.S. BABAR; O. BABAWALE; C. BABIN; B.H. BABU; B.  
 BACA; J. BACARESE-HAMILTON; T. BACARESE-HAMILTON; S. BACHIRI; T. BÄCHLER; A. BACON; F. BADAHDAM; M. BADEDI; H. BADR; G.  
 BADR; H. BADR; A. BADRAN; N. BAEZA PINTADO; M. BAEZA-MURCIA; E. BAGOURI; M. BAIA; A.M. BAIETTI; M. BAIG; M.M. BAIG; K. BAI-  
 LEY; E. BAILI; M. BAILON; G. BAIOCCHI; H. BAJAH; O. BAJOMO; A. BAKARE; O.J. BAKER; M. BAKER; I. BAKHEIT; W.J. BAKKER; B. BAK-  
 MAZ; G. BAKOLAS; C. BALAGUE PONZ; M. BALAGUER-CASTRO; A. BALAKRISHNAN; A. BALAPHAS; D. BALASUBRAMANIAM; S.P. BALA-  
 SUBRAMANIAM; P. BALAU; L. BALDARI; T. BALDASSO; C. BALDI; E. BALDINI; A.J. BALDWIN; R. BALDWIN-SMITH; L. BALL; M. BALLA-  
 BIO; K. BALLANTYNE; E. BALLESTER VAZQUEZ; Q. BALLOUHEY; M. BALLUERCA; I. BALOYIANNIS; G. BALTAZAR; F. BAMBINA; V.S.  
 BAN; G.B. BANDARA; A. BANDIERA; S. BANDYOPADHYAY; A. BANERJEE; O.O. BANJO; B. BANKHEAD-KENDALL; B. BANKY; J.C. BAPTIS-  
 TA-SILVA; M. BAQUEDANO; J. BARAKAT AWADA; Y. BARBÉ; O. BARBIER; L. BARBIER; J.C. BARCELON; C. BARLOW; R. BARMASSE; B.  
 BARMAYEHVAR; C. BARMAPAGIANNI; R. BARON; R. BARONE; G. BARONIO; F. BARRA; A. BARRAE; A.G. BARRANQUERO; A. BARRA-  
 QUIO; B. BARRAT; E. BARRET; Z.M. BARRETT-BROWN; J.M. BARRIO; A. BARRIOS DUARTE; A.V. BARROS; N. BARROS JR; C. BARRY; C.  
 BARRY; B. BARTALUCCI; J.L. BARTHA RASERO; I. BARTOLINI; A. BARTSCH; G. BARUGOLA; A. BASGARAN; A. BASHA; Y. BASHIR; V.  
 BASHKIROVA; D. BASKARAN; P.S. BASNYAT; G.A. BASS; C. BASSI; A. BATEMAN; M.F. BATH; R.E. BATICULON; S. BATISTA; P. BATISTOTTI;  
 H.H. BATJER; R. BAUMBER; Z. BAXTER; J. BAYER; Z. BAYHAN; J. BAYNE; A. BAZAEV; P. BEAK; A.J. BEAMISH; R. BECERRA; F.C. BECERRA  
 GARCÍA; H. BECHRI; D. BEDDY; N. BEECH; E. BEGOÑA; M. BEJARANO SERRANO; D. BEKELE; M. BEKHEIT; E. BELCHER; N. BELEV; A.  
 BELGAUMKAR; A.P. BELGAUMKAR; Z.H. BELKHADIR; A. BELLACCI; L. BELLANTI; V.M. BELLATO CAMPANELLI; D. BELLEMARE; A.  
 BELLI; C. BELLIS; J. BELLO; F. BELLLOJO; G.A. BELTRAMINI; J. BELTRAN DE HEREDIA; P. BELTRAN-MIRANDA; A. BELVEDERE; M. BENCE;  
 L. BENDJEMAR; E. BENEDETTI; I. BENÍTEZ-LINERO; M.W. BENJAMIN; A. BENKABOU; S. BENNETT; A. BEN-SASSI; E.A. BENSI; R. BENTO;  
 C. BERGAMINI; D. BERGEAT; A. BERGERON; M. BERGONZANI; J.C. BERNAL-SPREKELSEN; P. BERNANTE; D. BERNARDI; M. BERNASCONI;  
 A.E. BERNDTSON; M. BERNÓN; G. BERRY; M. BERSELLI; P. BERTOGLIO; G. BERTOLI; T. BESE; N. BESSER; J. BETALLELUZ PALLARDEL; J.  
 BETTONI; C.S. BETZ; K. BEVAN; J. BEWARDER; K. BEYER; T.S. BEZERRA; A. BHALLA; A.R. BHAMA; A. BHANGU; S. BHASIN; K. BHATIA; S.  
 BHATTACHARYA; A.B. BHATTI; A. BHAVARAJU; D. BHOJWANI; S. BHUDIA; N. BHUTANI; T. BHUVANAKRISHNA; M. BIALA; M. BIANCHINI;  
 F. BIANCO; F. BIANCO; M. BIASINI; D. BIASONI; L. BIBBY; W. BIERMAN; W. BIFFL; D. BIGAM; P. BIGOT; I. BILIATIS; A. BILLÉ; A. BIN NASS-  
 ER; A.D. BINDER; J. BINDER; E. BIRGIN; S.L. BIROLO; P. BISAGNI; M.N. BITTAR; J. BLAIR; I. BLAKE; T. BLANC; J. BLANCO; R. BLANCO-  
 COLINO; J.L. BLAS LAINA; J. BLASCO-MOREU; L. BLASCO-TORRES; A. BLAZQUEZ MARTIN; S. BLEIBLEH; N.S. BLENCOWE; C. BLIER; O.  
 BLOOM; C. BLUNDELL; M. BOAL; T. BOARD; P. BOBAK; L.A. BOCCALATTE; G. BOCCHIALINI; A. BODDY; C.O. BODE; A.S. BODLA; M.  
 BOECK; A. BOECKXSTAENS; C. BOEKER; E.G. BOERMA; D. BOERMA; M.A. BOERMEESTER; G. BOGANI; S. BOJIC; M. BOLAND; A. BOL-

BARÁN; M. BOLSTER-VAN EENENNAAM; G. BONAVINA; L. BONAVINA; G. BOND-SMITH; A. BONDURRI; L. BONI; A. BONILLA; A. BONNARD; K. BOOTH; G. BORDA-LUQUE; M. BORDENAVE; P. BORDONI; F. BORGES; N. BORGES; F. BORCHI; A.B. BORGSTEIN; U. BORK; N. BÖRNER; B. BORRACCINO; L. BORTOLASI; D. BOSANQUET; K.D. BOSCH; M. BOSCH-RAMÍREZ; A. BÖTTCHER; K. BOUCHAGIER; M. BOUCHARD; P.A. BOUCHE; S. BOUCHER; N. BOUCHIBA; A. BOUHUWAISH; A.J. BOULTON; G. BOURKE; S. BOUSSEDRÁ; M. BOUTROS; M. BOUTROS; D. BOWEN; J. BOWEN; H. BOYD-CARSON; T. BOYLE; E. BOYLE; C. BOYLE; K. BOZADA GUTIERREZ; E. BOZKURT; M.A. BOZKURT; G. BRACHINI; S. BRADULSKIS; H. BRAHAM; D. BRAHMBHATT; G. BRANAGAN; C. BRANCO; A. BRANQUINHO; R. BRANQUINHO; A. BRAR; C.E. BRATHWAITE; B. BRATT; C. BRAUMANN; S.L. BRAVO; D. BREDA; K. BREEN; R. BREHERET; O. BREIK; C. BRENNAN; P. BRENNAN; F. BRENNFLECK; F. BRETAGNOL; C. BRETHERTON; C. BRETT-MILLER; R.G. BREUER; H. BREWER; E. BRIAN; D. BRIATICO; E. BRITTON; G. BRIXTON; A. BROCH; N. BROGLY; P. BROUKI MILAN; V. BROWN; A. BROWN; O. BROWN; B.C. BROWN; S. BROWN; S.R. BROWN; J. A. BROWN; L. BROWN; A. BRUNELLI; U. BRUNNER; S.M. BRUNNER; E. BRUNOCILLA; A. BRUNT; A. BRUSCINO; P. BRUZZANITI; R. BSCHORER; I.L. BUARQUE; O. BUDHA MAGAR; A.D. BUENO CAÑONES; G.A. BUERBA; T. BUESER; K. BUFFENOIR; J.J. BUTTENDAG; S.I. BUKHARI; M. BULUGMA; J. BUNNI; A. BURAHEE; L. BURDINE; S. BURG; J.R. BURKE; C. BURLEW; S. BURNARD; N. BURNSIDE; F.E. BURUIANA; C.J. BUSCH; W. BUTT; U. BUTT; W. BUTTERWORTH; M.H. BYRNE; J. BYRNE; J.M. CABADA LEE; V.D. CABALLERO SARABIA; J. CABALLERO-ALVARADO; A. CABELEIRA; K. CABILLAS; P.A. CABRERA; E. CABRINI; M. CACCETTA; P. CADENELLI; A. CADERSA; E.P. CAGIGAL ORTEGA; A. CAIADO; P. CAJA VIVANCOS; G. CAKMAK; M. CALABRÒ; E. CALCERRADA ALISES; F. CALIKOGLU; M.P. CALLAHAN; R. CALLAN; R. CALLCUT; J.A. CALVACHE; P. CALVO ESPINO; A. CALVO REY; C. CAMACHO; F. CAMACHO ZACARÍAS; P. CAMACHO-CARRASCO; E. CAMARERO; A. CAMILLO; N.G. CAMINSKY; L. CAMP; T. CAMPAGNARO; N. CAMPAIN; R. CAMPBELL; J. CAMPOS; B. CAMPUZANO-BITTERLING; M. CAMUERA; A. CANAS-MARTINEZ; M. CANDIANI; E. CANELLES CORELL; C. CANHOTO; M. CANNOLETTA; O. CANO; J. CAÑO VELASCO; G. CANONICO; M. CANTALEJO-DIAZ; H. CAO; R. CAPANNA; B. CAPDEVILA VILARO; P. CAPELLI; L. CAPEZZUOLI; L. CAPITAN-MORALES; H. CAPITELLI-MCMAHON; V. CAPIZZI; R. CAPOGLU; M. CAPUTO; A. CARABIAS; C. CARAPINHA; M.I. CARBALLO; E. CARBONNEAU; G. CARCANO; P. CARCOFORO; T. CARDENAS; D. CÁRDENAS RUIZ DE CASTILLA; P. CARDOSO; N. CARDOSO; J. CARDOSO; M. CARETTO; F. CARISSIMI; W. CARLOS; P. CARLOS SANTOS; M. CARLUCCI; H. CARMICHAEL; A. CARNEVALI; Y.T. CARPIO COLMENARES; F.M. CARRANO; M. CARRASCO-PRATS; R. CARREIRA GARCÍA; A. CARRERAS-CASTAÑER; M.M. CARRICK; F.M. CARRIER; M. CARRILLO-RIVAS; E. CARRINGTON; P.A. CARROLL; J. CARTER; E.J. CARUANA; J. CARUSO; A.A. CARVALHO; G.B. CARVALHO; L. CARVALHO; M.F. CARVALHO; M.M. CARVELLO; M. CASATI; L. CASETTI; T. CASIRAGHI; E. CASSINOTTI; W. CASTAÑEDA; S. CASTANHEIRA RODRIGUES; A.M. CASTAÑO-LEON; J. CASTELLANOS; K. CASTILLO; C. CASTORO; S. CASTRO; R. CASTRO DE LA MATA; C. CASTRO RUIZ; J.C. CATALÁ BAUSET; V. CATALÁN; J. CATARINO; F. CATENA; N. CATHALA; X. CATHÉLINEAU; L.D. CATO; J. CATTO; A. CATTON; M. CAUTERUCCIO; S. CAVALLEIRO; P. CAVALLÉ BUSQUETS; L. CAYETANO PANIAGUA; M. CAZADOR LABAT; A. CAZIUC; R. CAZZANIGA; S. CEBI; L. CECCHINI; I. CECCONELLO; F. CELEBI; P. CELLERINO; S. CENCIARELLI; C. CERNEI; C. CERRO ZABALLOS; M. CERVELLERA; S. CERVERA; I. CERVERA; R. CHADHA; B. CHALLACOMBE; L.L. CHAN; M. CHAN; C.H. CHAN; C.D. CHAN; J. CHAN; M. CHAND; K. CHANDARANA; G. CHANG; H. CHANTY; A. CHARALABOPOULOS; A. CHARI; L. CHARRE; T. CHASE; S. CHATTERJI; M. CHATZIKONSTANTINOU; G. CHAUHAN; N. CHAVARRIAS; N.A. CHE BAKRI; A. CHEBARO; C. CHECCUCCI; R. CHELVA; F. CHEN; D. CHEN; D. CHENG; Y.J. CHEONG; E. CHERULLO; A. CHESSA; G. CHETTY; J. CHEUNG; M. CHEVALLAY; Z. CHIA; M.F. CHIAPPETTA; A. CHIAPPINI; R. CHIARPENELLO; M. CHIARUGI; S. CHIDAMBARAM; M. CHIOZZA; J.A. CHIU; D. CHOI; H. CHOLEWA; C. CHONG; E. CHOOANI BHOJWANI; S. CHOPRA; R. CHORON; A. CHOUDHRY; E. CHOUILLARD; M.F. CHOWDHURY; S. CHOWDHURY; S. CHOWDHURY; M. CHOWDHURY; A. CHOWDHURY; D. CHRASTEK; P. CHRISTENSEN; M.A. CHRISTENSEN; A. CHRISTIANO; P. CHRISTIDIS; D. CHRISTOFORIDIS; N. CHRISTOU; C.D. CHRISTOU; E. CHRYSOS; F. CHU; K. CHU; H. CHU; K. CHUI; H. CHUNG; E. CHUNG; C. CHUNG; D. CIANFLOCCA; C. CIATTI; R. CICCIO; P.M. CICERCHIA; M. CICILLOT; B. CIMENOGLU; A. CIOCI; S.P. CIOFFI; R. CIPRIANI; V. CIRIELLO; B. CIRILLO; N. CIROCCHI; G. CISTERNINO; B. CITGEZ; D. CITTERIO; H. CLANCY; G. CLARIZIA; J. CLARK; E.M. CLARKE; M. CLARO; P. CLERMIDI; R. CLIFFORD; E. CLOUGH; A.L. CLYNCH; F. COCCOLINI; E. COCOZZA; J.C. COFFEY; T.U. COHNERT; F.J. COIMBRA; J.M. COJULUN; E. COLAK; L. COLAO GARCÍA; J. COLEMAN; N.L. COLEMAN; J. COLINA CASAS; M. COLINO; B. COLLARD; M. COLLEDAN; P. COLLERA; G. COLLETTI; T. COLLIER; K.P. COLLING; C.G. COLLINS; M.L. COLLINS; J. COLLIS; F. COLOMBO; E.T. COLONNA; A. COLQUHOUN; N. COLUCCI; C.A. COLUNGA TINAJERO; H.V. COLVIN; T. COMBELLACK; L.V. COMINI; B. COMPAGNONI; V. CONCEPCIÓN MARTÍN; S. CONCI; M. CONFALONIERI; K. CONLON; K. CONLON; T.M. CONNELLY; E. CONNOLLY; H. CONNOLLY; C. CONSO; E. CONSORTI; J. CONSTABLE; L. CONTI; E. COOMBER; A. COONAR; Z. COOPER; D. COPE; C. CORBELLINI; H.J. CORBETT; F. CORDERA; A. CORDONNIER; E. CORDOVA-CALLE; D.K. CORNELIO; J. CORNISH J; M. CORONA SOUTCHEIRON; A. CORREA BONITO; R.M. CORREIA; S. CORREIA; J. CORREIA; R. CORREIA; T. CORREIA-DE-SA; M. CORRIGAN; D. CORTÉS GUIRAL; M. COSMELLI; R. COSKER; M. COSTA; M.J. COSTA; D. COSTA SANTOS; S. COSTANTINI; A. COSTANZI; P. COSTE MAZEAU; B. COSTEIRA; O. COSTEROUSSE; G. CÔTÉ; A. COTOIA; C. COTSOGLOU; E. COTTE; P. COUGHLIN; E. COUTURE; D.R. COX; V. COZZA; M. CRANK; A. CRAUS-MIGUEL; M. CREANGA; B. CREAVIN; D. CREGO-VITA; V. CRENN; R. CRESNER; A. CRESPO; R. CRICHTON; A. CRICHTON; J. CRISTINI; S.M. CROGHAN; B. CROS; G.W. CROSS; R. CROWLEY; A.S. CRUGNALE; E.M. CRUZ; L. CRUZ; A. CRUZ CIDONCHA; D.L. CRUZ CONDORI; A. CUADRADO-GARCIA; M. CUESTA ARGOS; M.A. CUETO; M. CUKIER; C. CULLINANE; O. CULLIVAN; T. CUMING; A. CUMPSTEY; C. CUNHA; R.M. CUNNINGHAM; Y. CUNNINGHAM; T. CURL-ROPER; T. CURRY; M. CURTIS; C. CURTIS-MARTINEZ; J.M. CURVAS; J. CUSCHIERI; R. CUTHBERT; V. CVETANOVSKA NAUNOVA; W. CYMES; A.M. DA SILVA; A. DAADIPOUR; M. D'AGRUMA; E. DAINIUS; K. DAJANI; I. DAJTI; S. DAKPÉ; S. DALGLEISH; P. DALIYA; E. DALMASSO; A. DALY; P.D. DAMASCENO; R. DAMIAN; G. D'ANDREA; G. D'ANGELO; A. DANIELE; I.R. DANIELS; F. D'ARAGON; H. DARRAJ; M. DASA; D. DASS; M.D. DAUER; D. DAVENPORT; B. DAVIDSON; G.H. DAVIDSON; R.J. DAVIES; M. DAVIES; E. DAVIES; G. DAVIES-JONES; N.F. DAVIS; S. DAVISON; N. DAWE; A.C. DAWSON; A. DAY; A. DAY; U. DE ANDRES OLABARRIA; B. DE ANDRÉS-ASENJO; J. DE BARROS; R. DE BERARDINIS; J. DE COSTER; E. DE CRESCENZO; A. DE GEA RICO; C. DE GHELDERE; M.R. DE GRAAFF; I. DE HARO JORGE; T. DE HOOP; P. DE IACO; M. DE KOCK; M.F. DE LA CRUZ MONROY; A. DE LA HOZ RODRIGUEZ; M.A. DE LA ROSA; M. DE LA ROSA-ESTADELLA; F.B. DE LACY; A. DE MANZONI GARBERINI; J. DE MARCHI; M.D. DE MIGUEL-ARDEVINES; P. DE NARDI; A.L. DE OLIVEIRA LOPEZ; M. DE PASTENA; H. DE PRAETERE; P.R. DE REUVER; S. DE ROBLES; S. DE ROBLES; T. DE SILVA; B. DE SIMONE; V. DE SIMONE; G. DE SMUL; A. DE SOUZA; G. DE TOMA; S. DE VERGIE; R. DE VINCENTI; A. DE VIRGILIO; J.P. DE VRIES; T.S. DE VRIES REILINGH; H. DEAN; B. DEAN; I. DEGLURKAR; A. DEHAL; D. DEHART; A. DEJIRINO; D. DEISHER; D.O. DEJANA; T. DEJANOVIC; N.A. DEKKER; R. DEL GIUDICE; M.D. DEL TORO LOPEZ; K.S. DELANK; L. DELGADO BÚRDALO; J. DELGADO FERNANDEZ; D. DELIGIANNIDIS; C. DELIMPALTA; A. DELL; A.N. DELLA GATTA; J. DELLONDER FRIGOLÉ; C. DEMETRIOU; H. DEMIR; R. DEMIRHAN; F. DEMIRKIRAN; S. DEMIRLI ATICI; S. DEMYTTEAERE; F.C. DEN BOER; W. DENIS; M. DENNING; A. DENNING; B. DENNIS; H. DENT; N. DEPALMA; A. DESAI; L. DESENDER; M. DESIO; J. DESROCHES; S. DESTER; A.C. DEUS; B. DEVAUCHELLE; V. DEVEZAS; V. DEWAN; A. DI BELLA; F. DI CANDIDO; F. DI CHIARA; G. DI FRANCO; M. DI GIUSEPPE; F. DI LELLA; S. DI MARIA GRIMALDI; C. DI MARTINO; M. DI MARTINO; M. DI MURO; S. DI SAVERIO; G. DI TARANTO; A. DIAMANTIS; A. DIAS; S. DIAZ; J. DIAZ; J. DIAZ; C. DIÁZ; R. DIAZ DEL GOBBO; A. DÍAZ GARCÍA; P. DÍAZ PEÑA; D. DÍAZ PÉREZ; P.J. DIAZ-DELGADO; R. DIAZ-RUIZ; K. DICKSON; B. DIÉGUEZ; M.D. DIESTRO; E. DÍEZ; M. DIEZ ALONSO; E. DIKICIER; D. DIMITRIJEVIC; H.A. DINCER; D. DING; R. DIRKS; S. DISCEPOLA; M. DISTLER; H. DIVECHA; J. DIXON; A. DJOUANI; V. DJUKIC; M. DJURIC; M. DOE; J. DOERNER; K. DOKLESTIC; J. DOMENECH; M. DOMENICHINI; L. DOMENICI; E.J. DOMINGO; J.C. DOMINGUES; G. DONDI; N. DONLON; C. DONOHUE; A. DOORGAKANT; A. DORAFSHAR; L. DOS SANTOS CARREVAL; C. DOTT; T. DOULIAS; A. DOUSSOT; G. DOVELL; G. DOVELL; T. DRAKE; F.T. DRAKE; A. DRANE; R. DRASOVEAN; J. D'SOUZA; H. DU PREEZ; E. DUCHALAIS; N. DUCHATEAU; E. DUCK; J. DUDEK; N.N. DUDI-VENKATA; S. DUFF; L. DUGGLEBY; S. D'UGO; S. DUMITRA; R. DUNCAN; J. DUNN; N.

This document is protected by international copyright laws. No additional reproduction is authorized. It is permitted for personal use to download and save only one file and print only one copy of this Article. It is not permitted to make additional copies (either sporadically or systematically, either printed or electronic) of the Article for any purpose. It is not permitted to distribute the electronic copy of the article through online internet and/or intranet file sharing systems, electronic mailing or any other means which may allow access to the Article. The use of all or any part of the Article for any Commercial Use is not permitted. The creation of derivative works from the Article is not permitted. The production of reprints for personal or commercial use is not permitted. It is not permitted to remove, cover, overlay, obscure, block, or change any copyright notices or terms of use which the Publisher may post on the Article. It is not permitted to frame or use framing techniques to enclose any trademark, logo, or other proprietary information of the Publisher.



DUNNE; D. DUNNE; J. DUNNING; M. DUNSTAN; J.P. DUPRAT; M. DUQUE; V. DUQUE-MALLEN; I. DURAN; M. DURÁN BALLESTEROS; V.M. DURÁN-MUÑOZ-CRUZADO; H. DURIO YATES; A. DURRANI; A.Z. DURST; K. DUSU; L.S. DVORKIN; O. DWIDAR; J. DZIAKOVA; N. EARDLEY; H. EARLEY; H. EBERBACH; A. EBRAHIM; G. ECHEVERRÍA-DÁVILA; T. ECHIM; S. ECKHOUSE; B. EDDY; R. EDMONDSON; J. EDWARDS; S.K. EFETOV; B. EGAN; R.J. EGAN; I.K. EGBUCHULEM; A. EGGLESTONE; N. EGOROFF; N. EIBINGER; J. EID; C. EIRIZ FERNANDEZ; N.G. EKE; B. EL AHMADI; M. EL AMRANI; N. EL ARBI; A. EL AZHARI; S. EL DRUBI VEGA; M. EL HADI; M. EL HECHI; J. EL KAFSI; M. EL KASSAS; M. EL MOHEB; M. EL MOHEB; A. EL OUAHABI; K. EL SANHOURY; H. EL YOUZOURI; H. ELAMIN AHMED; A. ELAWAD; M. ELAYAN; P. ELBE; K. EL-BOGHADLY; A. EL-DALY; M. ELDEEB; O.A. ELEBUTE; A. ELFALLAL; H. ELFEKI; M. ELFIKY; S.M. ELGHAZALI; A. ELHADI; F. ELHADJAWA; I. ELHALABY; A. ELHAMSHARY; S. EL-HASANI; M. ELHUSSEINI; H. ELKADI; R. ELKADY; H. ELKHAYAT; J.A. ELLIOTT; L. ELLIOTT; N. ELMALEH; Y. EL-MASRY; U. ELMORE; T. ELMOSLEMAN; M. ELNIEL; M.E. ELSAYED HEWALLA; H. ELSHAFIE; H. ELSHEIKH; B. ELY-AFAWI; M. ELZOGHBY; H. EMERSON; S. EMILE; M. EMIROGLU; K. EMMANUEL; O. EMMERSON; M. EMOUS; K. EMSLIE; F.W. ENDORF; I. ENEMOSAH; J. ENGEL; C. ENGLISH; D. ENJUTO; E. ENOCH; G. ERCAN; C. ERCETIN; B. ERDLER; S. ERGUN; F. ERIBERTO; E. ERIKSSON; T. EROL; S. ERRIDGE; O. ERSEN; J. ESCARTIN; D. ESCOBAR; M.I. ESCUDERO; P. ESKANDER; E. ESMAIL; E. ESPIN-BASANY; M. ESPINO SEGUERA-ILLA; J. ESPINOSA; C.A. ESPINOSA; R. ESPINOZA-LLERENA; F. ESPITALIER; G. ESPOSITO; A. ESPOSITO; M. ESSA; M. ESTAIRE GÓMEZ; E. ESTEBAN AGUSTÍ; O. ESTEBAN SINOVAS; E.E. ESTRADA; E. ETCHILL; R. EVANS; J. EVANS; J. EVANS; H. EVANS; R. EXLEY; A.C. EZANNO; N. FABBRI; O.M. FABOYA; H. FACUNDO; M.G. FADEL; J. FAGAN; B.A. FAHEY; M. FAHIM; T. FAHMAWEE; M.W. FAHMI; K. FAIRHURST; M. FALCIONI; G. FALCO; M. FAMBRINI; P. FAMILIARI; A. FANCELLU; M. FANJUL; C.S. FARIA; F. FARNESI; M.S. FAROOQ; R. FARRE FONT; T. FARRELL; R. FARRELL; A. FARSI; S. FARSI; M.S. FATHELBAB; G. FAULKNER; H. FAWI; M. FAWZY; A. FAYAD; M.T. FAYED; S. FAYOSE; N. FEARON; M. FEDIUK; M. FEHERVARI; A. FELL; S. FELMBAN; C.V. FEO; C.F. FEO; D. FERGUSON; H. FERGUSON; C. FERNADEZ; V. FERNANDES; M.L. FERNANDEZ; P. FERNANDEZ BERNABÉ; A. FERNANDEZ CAMUÑAS; L. FERNANDEZ GÓMEZ CRUZADO; M.T. FERNANDEZ MARTÍN; D. FERNANDEZ MARTÍNEZ; F.J. FERNANDEZ PABLOS; A. FERNANDEZ-CANDELA; A. FERNANDEZ-COLORADO; P.V. FERNANDEZ-FERNANDEZ; A.J. FERNANDEZ-LÓPEZ; M.R. FERNANDEZ-MARÍN; L. FERNANDEZ-VEGA; D. FERNANDO; A. FERRAILO; F. FERRARA; G. FERRARI; L. FERRARIO; I. FERRAZ; C. FERREIRA; F. FERRELI; E. FERRER-INAEBNIT; P. FERRERO; S. FERRERO; E. FERRERO HERERO; C.C. FERRO; C. FERRON; R.L. FILARCA; R.F. FILARCA CARLOS; M.D. FILIPE; J.G. FINCH; L. FINDLAY; N. FINE; L. FINNEGAN; M. FIORE; E. FIORI; A. FIORINI; N. FIRAT; A. FISHER; T. FISSEHA; C. FITZGERALD; N. FLAMEY; O. FLANNERY; M. FLATMAN; M. FLAVIN; C. FLEMING; J. FLEMING; F. FLERES; I. FLINDALL; R. FLORES CLOTET; G. FLUEGEN; R.L. FLUMIGNAN; C.D. FLUMIGNAN; S. FOLLI; A. FOLURUNSO; G.B. FONSI; T. FONTANA; M. FONTANA; S. FORD; D. FORD; S. FORLANI; A. FORNASARI; L. FORTUNA; J. FOSTER; L. FOSTER; C. FOTPOULOU; D.M. FOUNTAIN; L. FOURCADE; M. FOURTOUNAS; A. FOWLER; G.E. FOWLER; A. FRANCESCHI; E. FRANCONI; J. FRANKEN; M. FRANZINI; S. FRASER; M. FRASSON; A. FRATI; C. FRATTARUOLO; J. FREEDMAN; M. FREIJEIRO; A. FRENA; K. FRETWELL; A. FREYRIE; K. FREYSTAETTER; L. FRIAS; H. FRIMA; F. FRIO; F. FRONGIA; A. FRONTALI; J. FROST; R. FRUSCIO; H. FU; D.P. FUDULU; T. FUENTES; J.R. FUENTES; D. FUKS; S. FULGINITI; U. FUMAGALLI ROMARIO; N. FURBETTA; G. FUSAI; A. FUSON; O. FUWA; M. GABER; A. GABR; A. GABRE-KIDAN; A. GADDUCCI; A. GAGLIANO; A. GAGLIANO; F. GAGLIARDI; N. GAGNÉ; S. GAHUNIA; F. GAINO; A. GAINZA; A. GAITANIDIS; K. GAJJAR; T. GALA; C. GALATA; B. GALBREATH; M. GALHOUM; P. GALINDO JARA; M. GALIPIENSO ERI; T. GALLAGHER; K. GALLAGHER; P. GALLAGHER; B. GALLAGHER; R. GALLEANO; R. GALLEANO; E. GALLIAMOV; A. GALLINAT; G. GALLO; A. GALVAN PÉREZ; C. GAMBACCIANI; E. GAMMERI; M. GANAU; I. GANLY; S. GANS; E. GARCA RICO; R. GARCÉS GARCÍA; M. GARCÉS-ALBIR; D. GARCIA; M. GARCÍA; M. GARCÍA ALONSO; L.A. GARCÍA BARRIONUEVO; S. GARCIA BOTELLA; E. GARCÍA DE CASTRO RUBIO; U. GARCIA DE CORTAZAR; J. GARCIA EGEA; L.J. GARCÍA FLÓREZ; J.J. GARCÍA GUTIERREZ; J.D. GARCIA MONTESINO; G. GARCÍA OPERÉ; D. GARCIA PEREZ; J.M. GARCÍA PÉREZ; E.P.J. GARCIA SANTOS; J. GARCIA SEPTIEM; O. GARCIA VILLAR; J.E. GARCIA VILLAYZAN; L. GARCIA-APARICIO; J. GARCIA-BORDA; M. GARCÍA-CONDE; D. GARCÍA-ESCUADERO; E. GARCIA-LOARTE GÓMEZ; V. GARCIA-PINEDA; V. GARCÍA-PORCEL; J. GARCÍA-QUIJADA; L. GARCIA-SANCHO TELLEZ; V. GARCÍA-SORIA; M.A. GARCÍA-UREÑA; V. GARCÍA-VIRTO; A. GARDNER; R. GARFINKLE; S. GARIBALDI; M. GARINO; T. GARMANOVA; M. GARNER; A. GARNERO; S. GARRIDO; R. GARRIDO; S. GARRIDO-ONDONO; G. GARULLI; I. GASCON-FERRER; M. GASS; A. GASSET-TEIXIDOR; A. GASULLA-RODRIGUEZ; A. GATTI; A. GATTOLIN; S. GATTONI; S. GAUJOUX; A. GAUNT; M.T. GAVALDÀ PELLICÉ; I. GAWRON; D. GEARON; E. GEARY; M. GEARY; A. GEDDES; A. GEGUNDEZ SIMON; E. GELARDA; N.A. GEMELLI; C. GEMMELL; E. GEMMILL; S. GENNARI; M. GENNARO; S. GENTILLI; J. GEOGHEGAN; R. GEORGE; K. GEORGE; B. GEORGE; F. GEORGIADES; N. GEORGOPOULOU; J. GERAGHTY; A. GERMAIN; I. GEROGIANNIS; S.L. GERRITSEN; M. GESSSESSE; S. GHAEM-MAGHAM; G. GHALLY; G. GHALY; A. GHANBARI; K. GHANDOUR; R. GHANEM; A. GHANNAM; R. GHANNAM; H. GHATTAURA; S. GHEDAN; M. GHOBRIAL; A. GHONEIM; K. GHOSH; A. GHOURI; K. GHUFOOR; M. GIACOMETTI; E. GIALAMAS; D. GIANARDI; G. GIANNACCARE; A. GIANNI; L. GIANNINI; A. GIANNINI; M. GIARDINI; A. GIBLIN; J. GIGLIOTTI; C.G. GIL; J. GILBERT ESTELLÉS; O. GIL-ALBAROVA; C. GILBERT; A. GIL-CATALAN; H. GILL; H. GILL; C. GILL; D.F. GILL; C. GILLEZEAU; J. GILLILAND; A.E. GILLIS; G. GILNA; C. GIMENEZ-FRANCÉS; E. GIORGAKIS; D. GIOVINAZZO; E. GIRARD; G. GIRAUDE; E. GIRSOWICZ; S.S. GISBERTZ; M.C. GIUFFRIDA; M. GIUFFRIDA; P. GIULIANOTTI; E. GKRINIA; N. GLASS; O. GLEHEN; P. GLEN; I. GLISOVIC JOVANOVIC; C. GNANACHANDRAN; C. GODBOLE; N. GODIN; M. GODINHO; N. GOEL; M.A. GOH; K. GOHIL; E. GOKCEN; B. GÖKSOY; H. GOLCHER; A. GOLDENBERG-SANDAU; G.M. GOMES; H. GOMES; P. GÓMEZ; C.J. GÓMEZ DÍAZ; L. GÓMEZ FERNANDEZ; J. GÓMEZ RIVAS; J. GÓMEZ SUÁREZ; A. GÓMEZ-PEDRAZA; J. GÓMEZ-ROSADO; T. GÓMEZ-SANZ; B.T. GONÇALVES; N. GONÇALVES; J.P. GONÇALVES; K.M. GONDAL; E. GONULLU; A.D. GONZALES; D.S. GONZALEZ; J. GONZALEZ; R. GONZALEZ; F.X. GONZALEZ ARGENTE; M. GONZALEZ DE MIGUEL; J.A. GONZALEZ LOPEZ; E. GONZALEZ-GONZALEZ; M.T. GONZALEZ-NICOLAS-TREBOL; F.M. GONZALEZ-VALVERDE; S. GOODRUM; S. GOPALSWAMY; R. GOPI REDDY; L. GORDINI; A. GORI; S. GORTAZAR; A. GOSAIN; M. GOSAU; D. GOSSOT; A. GOUBRAN; M. GOWDA; A. GOYAL; K. GÓZAL; I. GRACIA; M. GRACIA; C. GRACIA-ROCHE; G. GRADINARIU; C. GRAINGER; T. GRAINGER; V. GRANATA; S. GRANIERI; E. GRASSET; T. GRASSI; M. GRASSO; A. GRECHI; L. GREEN; S. GREEN; M.S. GREENHALGH; A. GREGG; P. GREGORIC; C. GRIECO; X.L. GRIFFIN; E. GRIFFITHS; M. GRIGOROIU; J.V. GRILO; G. GRIMBIZIS; C. GRIMES; E. GRIMLEY; C. GRIMM; A. GRIMONPREZ; T. GRIVAS; A. GRIVAS; L.C. GROEN; A. GROEN; R. GROLMAN; A. GRONCHI; G. GROOT; J.L. GROSS; U. GROSSI; T. GROVE; R. GRÜTZMANN; S. GUADAGNI; M. GUAGLIO; E. GUAITOLI; M. GUARDIA; N. GUARDIA; C.A. GUARIGLIA; E. GUASCH; A. GUDAL; H.J. GUEDES NETO; C. GUERCI; P. GUERREIRO; A. GUEUTIER; O. GUEVARA; R. GUEVARA; J. GUEVARA; L. GUGLIEMMETTI; A. GUGLIELMI; S. GUHA; B. GUIDI; P. GUILLAMOT RUANO; A. GUIMARÃES; M.A. GUIMARAES-FILHO; S.A. GÜLER; A. GUMARAO; E.C. GUNDOGDU; E. GURREA-ALMELA; N. GUSANI; C. GUSTAVINO; M. GUTIERREZ SAMANIEGO; C.A. GUTSCHOW; T. GUZMAN; L. GUZMÁN; G.P. GWINI; O. HABEEB; A. HABEEB; A. HABEEBULLAH; N. HABIB; N.A. HACIM; E. HADDAD; J.N. HADFIELD; M. HADJIPAVLOU; L. HAENEN; L. HAGANDER; R. HAGGER; S. HAILU; A. HAINSWORTH; J. HAJIOANNOU; I. HAKAMI; H. HAKMI; S. HALASEH; C. HALKIAS; J. HALL; B. HALL; J. HALLET; E. HALLIDAY; O. HAMAD; M.K. HAMADA; Z. HAMADY; H. HAMAYEL; M. HAMBRAEUS; R. HAMDY; H. HAMED; H.K. HAMID; E. HAMILTON; M. HAMMAD; M. HAMMAD; J. HAMMOND; M. HAMPTON; S. HAMRANG-YOUSEFI; H.M. HAMZA; S. HANDA; A. HANLY; A. HANLY; M. HANNA; N. HANNA; A. HANNAH; L. HANSEN; A. HANSON; I. HAQ; M.H. HAQQANI; J. HARDIE; C. HARDIE; J. HARDT; N.P. HARDY; A. HARKY; N.J. HARLAAR; R. HARRIS; G. HARRIS; E.M. HARRISON; K. HARRISON-PHIPPS; C. HART; V. HART; R. HARWOOD; R. HASAN; M.T. HASAN; M. HASHEM; A. HASSAN; F. HASSAN; M. HASSAN; R. HASSAN; A. HASSANIN; R. HATZ; C. HATZANTONIS; A.F. HAUGSTVEDT; J. HAUPTMAN; I. HAWAL; M. HAWARI; A. HAWILA; P. HAWKIN; F. HAYATI; C. HAYDEN; A.B. HAYNES; J. HAZELTON; R. HECKBURN; B. HEER; J. HEISTERKAMP; M. HEMMILA; E.R. HENDRIKS; H. HENEGHAN; E.A. HENNESSY; S. HENRIQUES; P. HENRIQUES; J. HENRIQUES; A. HENRY; D.E. HENSHALL; J. HERAS AZNAR; T. HERKLOTS; P. HERNANDEZ; E. HERNANDEZ; R. HERNÁNDEZ; I. HERNÁNDEZ; M.A. HERNANDEZ BARTOLOME; A. HERNANDEZ GUTIERREZ; J. HERNANDEZ GUTIERREZ; L. HERNÁNDEZ

MIGUELENA; M. HERNÁNDEZ-GARCÍA; S. HERNANDEZ-KAKAURIDZE; J.M. HERNÁNDEZ-NAVA; C. HERON; J. HÉROUX; D.R. HERRERA MORA; J. HERRERA-ESQUIVEL; A. HERRERA-GOMEZ; N. HERRERA-MERINO; I. HERRERO; M. HERRERO-LOPEZ; F. HERRLE; P. HERRÖD; E. HERVIEUX; H.F. HETTA; R. HETTIGE; A. HEUER; B. HEYD; M.L. HIBBARD; C. HIDALGO SALINAS; S. HIGGS; A. HILL; G. HILL; C.E. HILL; M.J. HILL; A. HILLEY; T. HINE; C. HING; C.A. HINOJOSA; C. HIRCHE; S.A. HIRJI; F. HIRRI; H. HIRSCH; L. HITCHMAN; M. HO; B. HO; A.M. HOGAN; J. HOGAN; P. HÖHN; S. HOLAWA; C. HOLBROOK; E. HOLLER; M. HOLLYMAN; T. HOLME; F. HOLMNER; D. HOLROYD; M. HOLSCHER; F. HÖLZLE; R. HOMPES; N. HOPE; J. HOPKINS; N. HOESH; A.P. HORMIS; S. HORVATH; S. HOSNY; N. HOSSAIN; T. HOSSAIN; F. HOSSAIN; C. HOULDEN; R. HOUSTON; T. HOUWEN; D. HOWDEN; E. HUAMÁN; E. HUAMÁN EGOAVIL; E. HUAMÁN EGOAVIL; V.E. HUDSON; M. HUECAS-MARTINEZ; M.A. HUERTAS FERNANDEZ; J.L. HUGHES; F. HUGHES; I. HUGHES; R. HULTGREN; D. HUMES; L. HUMPHREYS; S. HUMPHRIES; I. HUNT; J. HUNT; R. HUSSEIN; K.M. HUSSEIN; P.J. HUTCHINSON; R. HUTCHISON; K. HUYNH; E.S. HWANG; G.Y. HYMAN; I. IANNONE; F.J. IBÁÑEZ-AGUIRRE; M. IBRAHEEM; A. IBRAHIM; S. IBRAHIM; M. IBRAHIM; S. IBRAHIM; G.C. ICAZA DE MARÍN; M. IDRISSE; G. IETTO; N. IFLAZOGLU; T.R. IJICHI; H. IKRAM; N. ILAHI; R. ILIC; S.M. IMAM; H. IMPELLIZZERI; M. INAMA; P. INCOLLINGO; M. INZUNZA; O. IOANNIDIS; D. IOVINO; M. IP; P. IPPONI; M.J. IRARRÁ ZAVAL; E. IRUNE; V. IRVINE; E. IRVINE; R. ISAACS BERON; H. ISHII; A. ISIK; N. ISLAM; A.A. ISLAM; D. ISLA-ORTIZ; O. ISMAIL; M. ISMAIL; S.M. ISOLANI; N. IVANCEVIC; J. IZBICKI; O. IZQUIERDO; F. IZZO; E. JABAGAT; R. JACH; J. JACKMAN; K. JACKSON; H. JACKSON; F. JÁCOME; J. JAEKERS; A. JAIN; S. JALLAD; A. JAMAL; P.S. JAMBULINGAM; W. JAMEL; G. JAMES; A. JAMES; G. JAMES; N.B. JAMIESON; T. JAMIL; A.A. JAMJOOM; G. JAMJOUM; M.H. JANJUA; A. JANJUA; J. JANSON; M. JANSSEN; Y. JANSSEN; U.M. JARIOD-FERRER; C. JARRY; M. JARVIS; Y. JAUHARI; S. JAUNOO; S. JAVED; P. JAVID; Z. JAWAD; Z. JAWAD; U. JAYARAJAH; B. JAYASANKAR; J.D. JAYASINGHE; D. JEEVAN; R. JEGANATHAN; C. JELLEY; D. JENKINS; M.D. JENKINSON; E. JENNER; H. JENNY; C. JENVEY; H. JEONG; S. JERI-MCFARLANE; D. JEYARETNA; C. JEZIENIECKI; L. JIAO; L. JIAO; M. JIBREEL; T. JICHI; G. JIMENEZ; V. JIMÉNEZ CARNEROS; E. JIMÉNEZ HIGUERA; M. JIMÉNEZ JIMÉNEZ; J. JIMENEZ MIRAMÓN; L.J. JIMENEZ RAMIREZ; M. JIMENEZ TOSCANO; X. JIMENEZ VILLANUEVA; L. JIMENEZ-ROLDAN; J. JIMENO FRAILE; H.K. JOENG; J. JOHN; C. JOHNSON; D. JOHNSON; J. JOHNSTONE; J.S. JOLISSAINT; E. JONAS; R. JONES; M. JONES; A. JONES; G.P. JONES; G. JONES; R.P. JONES; D. JONES; C. JONES; F.H. JONKER; P.K. JONKER; I. KAHN; M.L. JÖNSSON; R. JORBA; T. JORGENSEN; M. JORNET-GIBERT; P. JOSHI; Y. JOSHI; L. JOVCHESKI; J.M. JOVER; E. JOVINE; D.P. JOYCE; M. JUÁREZ-POMES; N. JUDKINS; S. JUNCA-MARTI; M. JUNG; B. JUTHANI; H. KAAAFARANI; M. KADJJA; D. KAEMMERER; J. KAHIU; J. KAHN; A. KAHN; V. KAKOTKIN; I. KALAITSIDOU; N. KALAVREZOS; A. KALE; R. KALENDEROV; V.K. KALIDINDI; M. KALKAT; K. KALKWARF; N.S. KALSON; A. KAM DA SILVA ANDRADE; M. KAMAL; A. KAMALOV; V. KAMBURUGLU; F. KAMEL; M. KAMENSKIKH; B.S. KAMERA; C. KAMPHUES; C. KANG; R. KANITKAR; S. KANTHASAMY; E. KANTOR; C. KAPOEN; K. KAPOOR; K. KAPRINIOTIS; A.R. KAR; Y. KARA; O. KARASLAN; E. KARAM; B.S. KARAM; E. KARAMAN; S. KARANDIKAR; P. KARANICOLAS; S. KARIM; A. KARIM; B. KARKI; M. KASHIF; F. KASHORA; V. KASIVISVANATHAN; D. KASSA; K. KASSAM; R. KASSIR; A. KATTAKAYAM; A. KAUFMANN; J.H. KAUPPILA; R. KAUR; J. KAUR; M. KAUSHAL; D.O. KAVANAGH; T. KAYA; B. KAYAN; B. KAYANI; E. KAYOMBO; M.Y. KAYYAL; E. KAZACHENKO; S. KAZAZ; D. KEARNEY; E. KEBAPÇI; B. KEELER; C.J. KELTY; G. KEMBUAN; N. KENNEDY; L. KENNEDY; R. KENNEDY; R. KENNELLY; E. KENT; A. KENT; I. KENT; A.A. KERAWALA; M.J. KERIN; M. KESKIN; S. KETTING; M.H. KEULEN; F. KHADWARDI; A. KHAJURIA; M. KHALAF; A. KHALEEL; M. KHALEFA; M. KHALIFA; A. KHALIL; S. KHAN; W.H. KHAN; K. KHAN; U. KHAN; A. KHAN; J. KHAN; A. KHAN; T. KHAN; H. KHANSAHEB; H. KHARKAR; F. KHATUN; I. KHAWAJA; S. KHAYAT; M.J. KHO; K.J. KHU; K. KHWAJA; E. KHYA; H. KICONCO; B. KIDANE; P. KIENLE; K. KIERAN; C. KIES; S.Y. KIESSLING; G. KILINC; S. KILLEEN; N.J. KIM; G. KIM; B. KIM; M. KIMBROUGH; M. KING; S.D. KING; J. KING; G. KINNAMAN; J. KINROSS; J. KINSELLA; A. KIRK; B.H. KIRMANI; Y. KIRMIZI; A. KISIEL; M. KITCHEN; M. KITCHEN; D. KLARISTENFELD; T.O. KLATTE; T. KLATTE; J. KLEFF; A. KLER; S. KLIMPOPOULOS; J.H. KLINKENBIJL; C. KLOPPERS; U. KNESER; W.T. KNOEFEL; J. KNOWLES; C. KNOWLES; M. KO; T. KOC; A. KOCATAS; B. KOECER; H.M. KOCHER; V.S. KOCHETKOV; D. KOENIG; A. KOH; S.Y. KOK; H. KÖKEN; A. KOKOBELYN; M. KOLEVA RADICA; A. KOLIAS; O. KOLLMAR; A. KOLUSAB; N. KOMEN; S. KOMMU; A. KONARSKI; A. KÖNIGSRÄINER; K. KONSTANTINOU; C. KONSTANTINOU; J. KONSTEN; C. KONTOVOUNISIOS; C. KORAI; S. KORN; M. KORNASZEWSKA; L.Z. KORNBLITH; Z. KOSHNOV; R.M. KOSHY; M. KOST; M. KOSTIC; O. KOUKOURA; A. KOURDOULI; V. KOURITAS; S. KOUSSAYER; M. KOUTENTAKIS; A. KOUYOUMDJIAN; M. KOWAL; K.F. KOWALEWSKI; L.P. KOWALSKI; L.P. KOWASKI; R. KOZAN; M. KRANAWETTER; C. KRATOCHWILA; E. KRISHNAN; H.O. KRISTENSEN; S. KRISTINSSON; J.P. KRONENFELD; H.M. KROON; E. KROPP; I. KRUGER; S. KRUIJFF; E. KUBILJUTE; V. KUBYSHKIN; A. KUC; F. KUCUK; G.O. KUCUK; S. KUDCHADKAR; B. KUEHLMANN; D. KUFEEJ; N. KUGLER; M.A. KULCSAR; R. KULKARNI; G. KULKARNI; L. KUMAR; N.K. KUMARAN; J.D. KÜN-DARBOIS; D.A. KURAMOTO; W. KURDI; H. KURIHARA; J. KUTKEVICIUS; R. KWANFEINBERG; A.M. KWOK; D. LA REGINA; F. LA TORRE; M. LA TORRE; M. LABALDE MARTINEZ; A. LABIB; P.L. LABIB; A.M. LACY; M.R. LADD; T. LAEKE; L. LAFACE; A. LAGARES; K. LAH; A. LAHOUD-VELAACHAGA; A. LAIRD; K. LAKHOO; Z. LAKKIS; A.K. LALA; M. LALLEMAND; J. LALOZE; B. LAMB; J. LAMBERT; M. LAMI; R. LAMM; S. LAMMY; S. LAMMY; C. LAMPERT; A. LANDALUCE-OLAVARRIA; S.A. LANDEO AGÜERO; F.J. LANDETE MOLINA; L. LANDONI; J. LANE; D. LANFRANCO; K. LANGEVELD; T. LANGLAIS; F. LANGLANDS; A. LANGONE; L. LANUZA; M.C. LAPITAN; P. LAPOLLA; G. LAPORTE; A. LARA; S. LARIO; J.O. LARKIN; J. LARYEA; I. LATAIFEH; K. LAU; R. LAURENTE; J.C. LAUSCHER; N. LAVAGEN; R. LAVY; J. LAW; T.A. LAWAL; B. LAWAL; S. LAWDAY; R. LAX-PÉREZ; G.R. LAYTON; A. LÁZARO; E. LAZOVA; E.M. LBHANNASAWY; S. LE GRANGE; B. LE ROY; I. LEAL SILVA; M. LEBE; W.K. LECLERCQ; V. LECLUYSE; K. LECOLLE; D. LECUMBERRI; F.S. LEDESMA; K.J. LEE; S.M. LEE; M. LEE; E. LEEDE; S. LEESON; R. LEFROY; C. LEHMANN; A.L. LEITE; A.M. LEITE-MOREIRA; J.M. LEMÉE; P. LENNON; E. LENZI; C.A. LEO; R. LEON; J.L. LEÓN PALACIOS; M. LEONGITO; L. LEOTTA; P. LERUT; E.Y. LEUNG; S. LEUNG; J.H. LEVIN; S.E. LEWIS; C. LEWIS-LLOYD; R. LEWIT; A. LEYTE; Z. LI; M.R. LI VALENCIA; T. LIKAKOS; C.C. LIAO; A.S. LIBERMAN; B. LIESKE; I. LIEW; J.C. LIFANTE; J. LILIENSTEIN; C. LILLO; D. LIM; J.A. LIM; C. LIMA-DA-SILVA; D.J. LIN; C. LINARI; G. LINDER; E.K. LINDQVIST; C. LIPEDE; L. LIPPA; G. LISI; F. LITTA; H. LIU; T. LIU; A.S. LIYANAGE; G. LIZZETTI-MENDOZA; V. LIZZI; H. LLAQUET BAYO; I.C. LLOYD; T. LO; A. LOAYZA; F.N. LOCH; S. LODHIA; M.W. LÖFFLER; N. LÖFGREN; K. LOGISHETTY; U. LOKMAN; C.P. LOMBARDI; D. LOMIENTO; Z. LONCAR; C. LONG; M. LONGHI; A. LONGHINI; L. LONGSTAFF; L.M. LOPES; C. LOPES; L. LOPES; M.P. LOPEZ; F. LOPEZ; L. LOPEZ ANTONANZAS; A. LÓPEZ CAMPILLO; C.A. LÓPEZ DE LA MANZANARA CANO; I. LOPEZ MURALLAS; G. LOPEZ-PENA; P. LORA-CUMPLIDO; J. LORD; M. LOSADA; E. LOSTIS; E. LOSTORIDIS; N. LOTT; M. LOUBANI; S.M. LOURAOUL; S. LOURENÇO; I. LOURENÇO; L. LOUTZIDOU; A. LOUVRIER; A. LOVECE; A.J. LOWERY; M.J. LOWEY; A. LOWY; P. LOZANO LOMINCHAR; A. LUCIANETTI; J. LUCK; M. LUIS; A.C. LUK; M. LUKASZEWSKI; L. LUKE; I. LUKSIC; D.B. LUMENTA; R. LUNEVICIUS; C. LUNEY; E.G. LUNGHU; L. LUO; X. LUO; V. LUOMA; A.I. LUPIAN-ANGULO; O. LUSAWANA; W.G. LUSTRE; G. LYE; O. LYONS; A. MAASHI; T. MACCABE; A. MACCHI; L. MACDONALD; P. MACEK; N. MACHADO; N. MACHAIRAS; J. MACIEL; K. MACKENZIE; S. MADAN; R. MADANI; A. MADDEN; T.K. MADHURI; K. MADHVANI; T. MADKHALI; M. MADONINI; Y. MAEDA; A. MAFFIOLI; A. MAFFUZ-AZIZ; M. MAGALHÃES MAIA; C. MAGEE; D. MAGOWAN; P.J. MAGUIRE; D. MAGUIRE; D. MAGUIRE; N. MAHABBAT; H. MAHDI; B. MAHENDRAN; V. MAHENDRAN; M. MAHER; U. MAHMOOD; A. MAHMOUD; F. MAHMOUD ALI; R. MAHONEY; D.A. MAHVI; P. MAIDA; F. MAIELLO; A. MAIGA; B. MAIN; J. MAINES; F. MAIONE; M. MAIR; E. MAISONNEUVE; A. MAITY; M.A. MAJBAR; I. MAJID; A. MAJKOWSKA; L. MAJKOWSKI; P. MAJOR; S. MAJRASHI; J.K. MAK; F.B. MAKDISSI; R. MAKIN-TAYLOR; C.C. MAKWE; A. MALAN; H. MALAPATI; O. MALARD; M. MALAVOLTA; F.L. MALCOLM; F.H. MALDONADO; Y. MALDONADO-SOTOCA; M. MALERBA; B. MALGRAS; N. MALIBARY; J. MALL; G. MALLABIABARRERA ORMAECHEA; G. MALLEO; F. MALONE; G. MALTINTI; M. MAMIC; J. MANARA; D.K. MANATAKIS; G. MANCA; M. MANCEBO; S. MANCINI; V.D. MANDATO; V. MANDIC MARKOVIC; R.P. MANECKSHA; R.P. MANECKSHA; S. MANFREDELLI; E. MANGOS; J. MANGWANI; J. MANICKAVASAGAM; P. MANISCALCO; S. MANNAN; D. MANNING; R. MANNION; F. MANRESA-MANRESA; E. MANRIQUE; P. MANSILLA DORIA; M.I. MANSO; J. MANSON; F. MANSOUR; A. MANSURI; A. MANTEVAS; B. MANTOGLU; N. MANU; F. MAQBOUL; A. MAQSOOD; R. MAQUEDA GONZÁLEZ; A. MAQUS; C. MARAFANTE; A.

MARANO; A. MARCHBANK; G. MARCHEGIANI; V. MARCHIONINI; A. MARCO-GARRIDO; P. MARCOS-SANTOS; H.J. MARCUS; P. MARE-MONTI; A. MARGALIT; G. MARI; J. MARIALVA; N.M. MARIANI; H. MARIN; C. MARIN; H. MARIN; M.V. MARINO; L. MARINO COSENTINO; S. MARINOS KOURIS; D. MARKARYAN; G. MARKOSE; W. MARLOW; N. MARQUES; T.M. MARQUES; M. MARQUETA DE SALAS; L. MARQUEZ; E. MARRA; A.A. MARRA; E. MARRANO; A. MARREIRO; G. MARRUZZO; C. MARSH; G. MARTE; T. MARTENS; C. MARTI; J. MARTIN; S. MARTIN; A. MARTIN; L. MARTIN; M. MARTIN; B. MARTIN; E. MARTIN; G. MARTIN; R.C. MARTIN; E. MARTIN ANTONA; P. MARTIN PLAYA; M.B. MARTÍN SALAMANCA; L. MARTIN-ALBO CABALLERO; L. MARTINEK; F. MARTINELLI; L. MARTINEZ; M.J. MARTINEZ; P. MARTINEZ PAS-CUAL; C. MARTÍNEZ PÉREZ; J. MARTÍNEZ ZARATE; J.A. MARTÍNEZ-ALONSO; A. MARTÍNEZ-GERMAN; E. MARTÍNEZ-HURTADO; C. MARTÍNEZ-PINEDO; E. MARTIN-PÉREZ; R. MARTINS; R. MARTINS; P.N. MARTINS; G. MARTINS DOS SANTOS; O. MARTIN-SOLE; P. MARTORELL; D.H. MARUJO; H. MARWAN; W. MARX; G. MARYAN; F. MARZI; A. MASCIANDARO; S. MASDOOS; A. MASHAT; H. MASHBARI; E.A. MASH-HOUR; M.S. MASOOD; M. MASRUR; C. MASSAGUER; M. MASSE; L. MASSEY; E. MASSIE; A. MASSOUD; J. MASSOUD; L. MASTERSON; S. MASTORIDIS; F. MASTRILLI; V. MASTROFILIPPO; A. MASTROSIMONE; O. MATEO-SIERRA; P. MATHIEU; D. MATHIEU; P. MATO; L.L. MATOS; P. MATOS COSTA; L. MATTEI; W. MATTHEWS; M. MATUTE-NAJARRO; L.R. MAURER; A. MAW; R. MAY; J. MAYES; M. MAYOMBO IDI-ATA; K. MAYSON; D. MAZINGI; V. MAZZAFERRO; F. MAZZOTTI; B. MCAREE; G. MCCABE; C. MCCAFFER; A. MCCANNY; C. MCCARTHY; J. MCCAUL; S. MCCLUNEY; P. MCCORMICK; W. MCCORMICK; S. MCCRINDLE; E. MCDERMOTT; F.D. MCDERMOTT; C. MCDONALD; K. MCEL-HINNEY; K. MCEVOY; R. MCEWEN; K. MCGIVERN; N. MCGRATH; J.S. MCGRATH; R. MCGREGOR; J. MCINTYRE; R.C. MCINTYRE JR; K. MCKENZIE; K.L. MCKEVITT; R. MCKINNEY; C. MCLAREN; N. MCLARY; J. MCMAHON; P. MCNELIS; F. MCNICOL; D. MCPARTLAND; I. MCPHERSON; J. MCVEIGH; A. MEAGHER; E. MEDINA-MANUEL; S. MEDIRATTA; M. MEDONE; R. MEDRANO CAVIEDES; M. MEHDI; B.J. MEHIGAN; G. MEHRA; D. MEHTA; E.M. MEIMA-VAN PRAAG; P. MEISTER; M. MEKHAEL; I. MELCHOR CORCÓSTEGUI; J. MELCHOR-RUAN; S. MELE; M. MELENDEZ; L. MELERO-CORTÉS; C. MELLOR; K. MELLOR; R. MEMBA IKUGA; A.S. MEMON; K. MEMON; C. MENAKAYA; J.M. MENDES; G. MENDINHOS; G.C. MENDIOLA; J. MENDOZA QUEVEDO; F. MENDOZA-MORENO; S. MENEGHINI; A. MENESSES-GARCÍA; M. MENGESHA; A. MENON; M.A. MERCADO; G. MERCANTE; A. MERDRIGNAC; R. MERH; S. MERIC; S. MEROLA; O. MERZLIKIN; F. MESSNER; M. METRO; M. METWALLI; J. METZGER; D. MICHAÏLIDOU; C.W. MICHALSKI; M. MICHEL; B. MICHELITSCH; D. MICIC; S.B. MIDDLETON; R. MIDHA; J. MIELKE; M. MIGLIORE; G. MIGNOT; L. MIGUELENA; M. MIHALIK; J. MIHANOVIC; M. MIHMANLI; Z. MIKOVIC; M. MILA-NOVIC; B.A. MILES; A. MILLER; D. MILLER; L. MILLS; C.P. MILLWARD; K. MILNE; M. MIMBELA; A.M. MINAYA-BRAVO; F. MINEO BIANCHI; A. MINGOLI; A. MINICOZZI; G. MINTO; T. MINTO; A.L. MINUSSI; A. MIRABELLA; P. MIRANDA; B.H. MIRANDA; R. MIRNEZAMI; M. MIRZA; M. MISEREZ; N. MISRA; S. MISTRY; D. MITCHELL; S. MITCHELL; R. MITHANY; S. MITRASINOVIC; M. MITTEREGGER; V. MIU; M.M. MO-AHMED; N. MOAWAD; S. MOCHET; N. MÖCKELMANN; A. MODABBER; N. MODI; M.M. MODOLO; E. MOGGIA; I. MOHAMED; I. MO-HAMED; A. MOHAMMAD; S. MOHAMMADI; M.M. MOHAMMED; D. MOHAMMED; M. MOHAMMED; R. MOHAMMED; H.M. MOHAN; M. MOHAN; K. MOHANKUMAR; R. MOHSINE; J. MOIR; A. MOKHTARI; A. MOLERO; V. MOLINA SANTOS; M. MOLINA-CORBACHO; C. MO-LINER SANCHEZ; A. MOMBET; M. MONDRAGON; F. MONGELLI; F.A. MONIB; J.R. MONSON; G. MONTALVO DOMINGUEZ; C. MONTAN; J.M. MONTEIRO; M. MONTELATICI; M. MONTELEONE; M.T. MONTELLA; M. MONTUORI; J. MOON; R.D. MOON; R. MOORE; T. MOORES; N. MOORJANI; I. MORA-GUZMÁN; H. MORAIS; A. MORAL DUARTE; I. MORALEDA GUDAYOL; E. MORALES; X. MORALES; N. MORALES PA-LACIOS; J.E. MORALES-CASTELAN; D. MORALES-GARCIA; L. MORELLI; L. MORELLI; D.H. MORENO; A. MORENO PÉREZ; L. MORENO-GOMEZ; E. MORENO-PALACIOS; M. MORENO-PORTILLO; F.J. MOREIRA OCÓN; G. MORETTO; R. MORGAN; M. MORGOM; D. MORIS; D. MORO-VALDEZATE; C. MORRIS; R. MORRIS; V. MORRISON-JONES; A. MORSI; M.S. MORSY; P. MORTINI; A. MORTON; A. MOSCA; A. MOSCA-LU; F. MOSLEY; D. MOSZKOWICZ; D. MOTTER; F. MOURA; M. MOZAFARI; A. MSHERGHI; L. MUALLEM-KALMOVICH; W. MUGLA; J.M. MUGUERZA; P. MUIËSAN; S. MUKHERJEE; K. MUKHTAR; W. MULDER; B. MULLER; M. MUNARRIZ; N. MUNDKUR; G. MUNDY; S. MUNGO; J.A. MUNICIO MARTÍN; S. MUNOT; R. MUÑOZ; J.M. MUÑOZ VIVES; V. MUÑOZ-ATIENZA; L. MUNOZ-BELLVIS; V. MURALIDHARAN; A. MU-RATORE; A. MURGESE; C. MURPHY; B. MURPHY; S. MURPHY; L. MUSINI; H. MUTAIR; D. MUTLU; D. MUTTER; D. MYATT; R. MYATT; J. MY-ERS; P. MYRELID; L. NAAR; A. NABIL; L. NACIF; A. NADLER; R. NAFEE AHMED; M.A. NAGEH; M.A. NAHID; S. NAIDOO; R. NAIR; M. NA-JDY; L.C. NAKANO; A. NAKAS; D. NALLY; G. NAMBI; T. NAMBI RAJAN; S. NANDHRA; P. NANJAI AH; P. NANKIVELL; L. NAPOLITANO; S.A. NAQI; Z. NAQI; P. NARAYAN; P. NARAYAN; C. NARDI; P. NAREDLA; B. NARICE; J. NASEEM; H. NASEEM; H. NASSA; S. NASSER; M. NASSER; Y. NASSER; J. NATALE; R.M. NATARAJA; R. NATH; A. NATHENS; D.N. NAUMANN; L. NAVARATNE; A. NAVARRO; A. NAVARRO-SANCHEZ; A. NAYEN SAINZ DE LA FUENTE; S. NAZARIAN; N. NEAL; P.C. NEARY; P.M. NEARY; D. NEELY; G. NEGRI; D. NEHRA; J. NEIL-DWYER; R. NEL; D. NEL; D. NELLENSTEIJN; T. NELLI; T. NELSON; F. NERI; J. NERI; L.C. NESPOLI; T. NEWMAN; S. NEWMAN; C. NEWTON; K. NEWTON; K.C. NG; J.C. NG; C.E. NG; M. NG; C.W. NGO; A.W. NGU; T.A. NGUYEN; V. NICASTRO; K. NICHOLSON; S. NICHOLSON; T. NICOLÁS-LÓPEZ; S. NIDA; H. NIKAJ; S. NIKOLAOU; B. NIKOLIC; M. NIQUEN-JIMENEZ; P. NISAR; S.P. NIŠCHWITZ; G.E. NITA; C. NITSCHKE; E. NKENKE; S. NOBILE; A. NOBRE PINTO; C. NOEL; J. NOEL; O. NOGUEIRA; J. NOGUEIRO; A. NOGUÉS; C. NORCINI; M. NORDBERG; D. NORIEGO MUÑOZ; T.M. NOTON; T. NOUH; Z. NOVAK; S. NOVELLO; A. NOVIKOVA; K. NOWAK; T. NUGENT; W. NUGENT 3RD; K.S. NUNES; R.L. NUNES; Q.M. NUNES; M. NUNES-COELHO; J. NUNEZ; H.M. NUÑEZ; J. NUÑEZ; H. NUÑEZ-DEL BARRIO; B. NUNEZ-GARCIA; R. NUNN; J.W. NUNOO-MENSAH; S.E. NWABUOKU; O.G. NWAORGU; R.M. NYGAARD; I.C. NZENWA; C. O'CONNOR; L.A. O'BANION; K. OBEIDAT; D. OBRAND; S. O'BRIEN; J. OCAÑA; C. O'CONNELL; J. O'CONNOR; Z. O'CONNOR; D.B. O'CONNOR; A. ODEH; D. ÖFNER; E. OGDEN; H. ÖGÜCÜ; O. OGUNDOYIN; A.A. OGUNYEMI; J.S. OH; K. OIKONOMOU; C. OJEDA-THIES; B.U. OKAFOR; R. O'KANE; V. OKECHUKWU; L. OKIROR; W. OKOBA; V. OKTSELOGLOU; A.I. OKUNLOLA; A.A. OKUNOWO; O. OLASEHINDE; E. OLEARO; R. OLIVA; F. OLIVA MOMPAN; P. OLIVEIRA; A. OLIVEIRA; J.M. OLIVEIRA; C.M. OLIVEIRA; M. OLIVERA VILLANUEVA; J. OLIVIER; A. OLLER; C. OLONA; S. OLORI; K.A. OLSON; S.A. OLSON; D. OLULANA; W. OMAR; M.S. OMAR; I. OMAR; L. O'MEARA; O.A. OMISANJO; E. OMLING; A. OMNIA; M.A. ONAN; M. OÑATE AGU-IRRE; J.R. O'NEILL; C.S. ONG; C.T. ONG; T. ONI; S. ONIDA; L. ONOS; A. OO; W. OOSTERLINCK; S. OOSTERLING; E. ORE; J.M. O'RIORDAN; J. OROZCO PEREZ; C.M. OROZCO-CHAMORRO; I. ORTEGA VAZQUEZ; F.J. ORTIZ DE SOLORZANO-AURUSA; M.R. ORTIZ-ARGOMEDO; L. OSAGIE; A. OSEIRA-REIGOSA; O.A. OSHODI; Y.A. OSHODI; I. OSMAN; A. OSORIO; C. OSÓRIO; H. O'SULLIVAN; M. OTIFY; C.E. OTINIANO ALVARADO; J. OTTOLINA; M.Y. OUDRHIRI; J. OURIEFF; A. OVAIT; E. OVEJERO MERINO; R. OWEN; P. OWENS; O.A. OYELAKIN; O. OY-ENDE; B. OYEWOLE; V. OZBEN; M.F. OZCELIK; D. OZGEDIZ; I. OZGUR; B.B. OZMEN; D. PACHECO SÁNCHEZ; M. PACHL; M. PACILLI; D. PADILLA-VALVERDE; S. PAGE; M. PAI; S. PAIELLA; F. PAIS; H. PAJAN; R.R. PALA BHASKAR; S. PALAGI; R. PALAIA; P. PALAZON BELLVER; F. PALAZZO; A. PALEPA; G.M. PALINI; M. PALMERI; P. PANAH; S. PANDANABOYANA; V. PANDURO-CORREA; M. PANIAGUA GARCIA SE-NORANS; S. PANKHANIA; V. PAPADOPOULOS; V. PAPAGNI; A. PAPINUTTI; B. PAQUETTE; J. PARAKH; C. PARANJAPE; K. PARASKEVOPOU-LOS; J.M. PARDO GARCIA; I. PAREDES; F. PAREJA-CIURÓ; A. PARELLO; A. PARENTE; P. PARISE; C. PARK; P. PARK; K. PARKINS; D. PAR-LANTI; C. PARMAR; P. PARRI; J. PARRY; A. PARSELIUNAS; J. PASCOE; L.A. PASCUA GÓMEZ; A. PASCUAL; F. PASINI; J. PASKAS; D. PASPA-LIARI; S. PASQUALI; R. PASRICHA; G. PASSOT; S. PATAUNER; P. PATEL; M. PATEL; K. PATEL; A. PATEL; J. PATENA FORTE; H. PATERSON; A.M. PATHANKI; A. PATIENCE; S. PATIL; P. PATKI; O. PATKI; B. PATRÍCIO; R. PATRONE; P. PATTYN; P. PATTYN; M. PAU; A. PAUL; P. PAUNERO VAZQUEZ; W. PAVLIS; C.J. PAYNE; V. PAZIN; T. PAZIONIS; A. PEARCE; L. PEARCE; L. PEARCE; G. PECK; A. PECKHAM-COOPER; C. PEDRAZ-ZANI; R. PEEVOR; A. PEIG-FONT; C. PEIRCE; P.M. PELAÉZ TORRES; D. PELAGGI; L. PELLEGRINO; J. PELLETIER; G. PELLINO; C. PELUSO; E. PENA GOMEZ-PORTUGAL; M. PERALTA FERREIRA; J. PERECA; M.R. PEREDA; R. PEREIRA; A. PEREIRA; C. PEREIRA; A. PEREIRA; A. PEREIRA; A. PEREIRA RODRIGUES; A. PEREIRA-NEVES; Y. PEREZ; M.D. PEREZ DIAZ; M. PEREZ GONZALEZ; A. PÉREZ NUÑEZ; C.J. PEREZ RIVERA; V. PÉREZ SIMÓN; S. PEREZ-BERTELEZ; B. PÉREZ-SABORIDO; L.E. PÉREZ-SÁNCHEZ; R. PERINOTTI; K. PERIVOLIOTIS; C. PERKINS; R. PER-KINS; G. PEROS; L.O. PEROTTO; M. PEROVIC; T. PERRA; A.M. PERRONE; G. PERRONE; A. PERSAD; D. PERTILE; A. PERUTELLI; A. PERYT; F.



PESANT; M.A. PESÁNTEZ PERALTA; T. PESCHEL; P. PESSAUX; M. PETEJA; F. PETRAGLIA; P. PETRONE; R. PETROV; M. PEYCELON; A.P. PEZ-ZUTO; K. PFISTER; H. PHAM; Y.C. PHAN; A. PHILLIPS; J.R. PHILLIPS; A.W. PHILLIPS; G. PHILOUZE; M. PHILP; J. PHULL; C. PIAZZA; A.L. PICARDO; S. PICAZO; A. PICCIARIELLO; M. PICCIRILLO; H. PICKARD; L. PICKERING; L. PICKETT; R. PICÓN RODRÍGUEZ; V. PICOTTI; F. PIERI; G. PIETROBON; N. PIGADAS; L. PIGNATARO; M. PIGNATTI; N. PIJANOVIC; J. PILLING; M. PILONI; G. PILU; T. PINA-VAZ; L. PINGAR-RÓN-MARTÍN; J. PINHEIRO SANTOS; R.E. PINILLA; E. PINOTTI; V. PINTO; J. PINTO; V.M. PINTO-ANGULO; R.J. PIPER; N.S. PIPITONE; G. PIROZZOLO; A. PIRZADA; A. PISANO; T. PISSANOU; L. PITONI; M.J. PIZARRO; P. PIZZINI; J. PLOSKI; P. POCKNEY; M. PODDA; D. PODOLSKY; R. POELSTRA; J. POGGIO; G. POGGIOLI; E. POLETTI; L. POL-FACHIN; T. POLI; A. POLICE; C. POLITIS; S. POLITIS; J.M. POLLOK; C. POMPILI; I. POP; S.G. POPESKOU; A. POPOOLA; D. POPOVA; A. PORCU; A.L. PORTILLA; M. PORTINARI; J.A. POSADA; O.E. POSADAS-TRUJILLO; L. POSMA-BOUMAN; N. POST; R. POTTER; D. POURNARAS; S. POWELL; E. POWELL-SMITH; G.M. PRADA HERVELLA; I.S. PRADEEP; C. PRAE-TORIUS; B. PRAMODANA; L. PRANTL; J. PRAT ORTELLS; R. PREECE; R. PREECE; V. PREMAKUMAR; J. PRESL; C. PRICE; T. PRICE; M. PRIEMEL; M. PRIETO CALVO; M.I. PRIETO NIETO; R. PRITCHARD; A. PRONK; P. PROSPERI; G.M. PRUCHER; V. PRUITI CIARELLO; F.R. PRU-VOT; N. PUJOL-CANO; R. PUJOL-MUNCUNILL; C. PUMA PAGLIARELLO; A. PUPPO; J. PUSHPA-RAJAH; S. PUTNIS; S. PUTNIS; S.T. QADRI; A. QASEM; M.S. QATORA; K.R. QIN; M. QUANTE; B. QUDDUS; M. QUINTANA; B. QUINTANA-VILLAMANDOS; J. QUINTENS; A. QUREISHI; A.U. QURESHI; A. RADHAKRISHNAN; M. RADSAVLJEVIC; M. RADY; L. RAE; A. RAFFAELE; A. RAFIQUE; K. RAGUPATHY; N. RAHBARI; F. RA-HIM; M. RAHMAN; S. RAHMAN; R. RAHMAN; A. RAHMAN MITUL; L. RAI; B. RAI; K. RAJA SHABIR; P. RAJAGOPAL; N. RAJARETNAM; A.D. RAJGOR; H.O. RAJI; K. RAJPUT; K. RAKOCZY; I. RAKVIN; I. RAMALLO-SOLÍS; R. RAMAMOORTHY; P.N. RAMIREZ; R.A. RAMOS; C.L. RA-MOS; D. RAMOS; A. RAMOS BONILLA; A. RAMOS-DE LA MEDINA; P. RAMOS-MARTIN; L. RAMSAY; J. RAMZI; S. RANJIT; F. RAPETTO; J. RAPP; D.A. RAPTIS; I. RASHID; M.M. RASHID; F. RASPAGLIESI; S. RATHINAM; R. RATTAN; S. RATTIZZATO; C. RATTO; E. RAUSA; C.P. RAUT; M. RAVAIOLI; N. RAVI; S. RAVINDRAKUMAR; S. RAVINDRAN; J. RAY; S. RAYAMAJHI; T. RAYMOND; M. RAZA; N. RAZA; A. RAZIK; G. RECI-NOS; A. RECORDARE; N. REGENET; V. REGHURAM; J. REGUERA-ROSAL; S. REHMAN; S. REHMAN; J. REID; S. REID; J. REILLY; T. REIN-HARD; C. REINKE; F. REINKEMEIER; C. REISSFELDER; M. RELA; M. RENAUCER-CERRILLO; M. RENNIS; P. RENOVELL FERRER; E. RENZA-STINGONE; T. REVEZ; S. REY; J. REY-BIEL; J.T. REYES; G.P. REYES; J.A. REYES; E. REYES RODRIGUEZ; J.V. REYNOLDS; I.S. REYNOLDS; J. REYNOLDS; C. REY-VALCARCEL; M. REZAEI TAVIRANI; M. RGHIOU; H.L. RHODES; M. RIBA MARTINEZ; R. RIBEIRO; V.I. RIBEIRO; T. RI-BEIRO; J. RIBEIRO; A. RIBEIRO; U. RIBEIRO JR.; M. RIBOLLA; D. RIBUFFO; S. RICCI; D. RICE; H.E. RICE; S.E. RICE-TOWNSEND; S. RIC-HARDS; T. RICHARDS; J. RICHARDS; P. RICHEBÉ; J. RICHES; M.C. RICHIR; M. RICHMOND; E. RICHTIG; G.E. RIDDIOUGH; P.F. RIDGWAY; A. RIDGWAY; J. RIGAUD; E. RIGHINI; L. RIGUEROS SPRINGFORD; C. RILEY; R. RIMONDA; M.N. RINGRESSI; J. RIO; L. RIO RODRIGUES; A.J. RIOS-DIAZ; J. RIPOLLÉS-MELCHOR; M. RISALITI; O.B. RISK; T. RISTESKI; R. RIVAS; D. RIVAS; R. RIVAS; F. RIVAS; R.D. RIVERA; H. RIYAT; M. RIZK; S. RIZVI; V. RIZZO; C. ROBBA; M. ROBERTS; M. ROBERTS; S. ROBERTSON; R. ROBERTSON; B. ROBERTSON-SMITH; A. ROBIN VALLE DE LERSUNDI; B. ROBINSON; A. ROBSON; M. ROCHON; S. RODIMOV; K. RODKEY; V.S. RODRIGO; S.C. RODRIGUES; M. RODRIGUES; E. RODRIGUEZ; J.L. RODRIGUEZ; M.I. RODRIGUEZ FERNANDEZ; A. RODRIGUEZ FRAGA; L. RODRÍGUEZ GÓMEZ; A. RODRÍGUEZ GONZA-LEZ; J. RODRIGUEZ-ABREU; H. RODRIGUEZ-ZENTNER; A. ROGERS; S. ROGERS; A. ROGERS; L.J. ROGERS; D.A. ROJAS-TE-JADA; J. ROJAS-TICONA; J.A. ROJO LOPEZ; P. ROLLAND; R.A. ROLLETT; L. ROLLI; A. ROLLS; M. ROMANO; C.A. ROMERO MANQUI; E. ROMERO-BAÑUELOS; A. ROMERO-DE DIEGO; O. ROMINIYI; U. RONELLENFITSCH; S. ROONEY; J. ROONEY; F. ROSA; R. ROSATI; F. ROSA-TO; J. ROSE; A. ROSELLO ANÓN; M. ROSENGART; S.M. ROSER; L. ROSS; E. ROSS; S. ROSS; H. ROSS; C. ROSSBOROUGH; V. ROSSI; G. ROSSI; G. ROSSI; S. ROSSI; T. ROSTKOWSKI; M. ROTTOLI; L. ROUTLEDGE; S. ROWARD; V. ROXO; C. ROY; H. ROY; S. ROY MAHAPATRA; T. ROYLE; F. ROZET; K. RUBIN; E. RUBIO; J. RUBIO-PALAU; I. RUBIO-PEREZ; M. RUDIC; M. RUEL; S.R. RUFAT; G. RUFFO; F. RUHIGIERO; A. RUIVO; I. RUIZ; G. RUIZ; M. RUIZ ESQUIDE; F. RUIZ GRANDE; I. RUIZ MARTIN; A. RUIZ-ESCOBAR; M. RUIZ-MARIN; M. RUIZ-SORIANO; J. RUSS; M. RUTEGÁRD; D. RUTHERFORD; N.M. RUZGAR; A. RÜZZENENTZ; E.J. RYAN; O. RYSKA; A. SAAD; M.M. SAAD; S. SAAD; A. SAADYÁ; T. SAA-FAN; J. SAAVEDRA; A. SABER; R. SABERI; A. SABRY; M.D. SACDALAN; A. SACHDEVA; H. SADIAN; P. SADIGH; B. SAEED; S. SAEED; P. SAEZ CARLIN; H. SAFARI; J. SAGAR; A. SAGNOTTA; K. SAHNAN; A. SAHNI; A. SAID BAYAZEED; M. SAIT; A. SAKR; A. SAKR; A. SALAH; H. SAL-AMA; A. SALAMAH; R. SALAS; A. SALAZAR; A. SALAZAR; A. SALAZAR-TANTALEÁN; R.A. SALCEDO-HERNÁNDEZ; A. SALEEM; M. SALEH; C. SALEH; M.C. SALEM; H. SALEM; H. SALEM; G. SALERNO; R. SALES; A. SALIM; S. SALIMOĞLU; J.R. SALINAS PEÑA; I. SALLAM; H. SALLE; S. SALMAN; M. SALÓ; J.A. SALUD; R. SALVIA; R. SALVIONI; E. SAMARUT; S. SAMBHWANI; E. SAMBUGARO; G. SAMMARCO; T. SAMMOUR; M. SAMPAIO-ALVES; G.M. SAMPIETRO; M. SAN ANDRÉS; C. SAN MIGUEL MÉNDEZ; G. SÁNCHEZ ANICETO; F. SANCHEZ CA-BEZUDO NOGUERA; S. SANCHEZ CABÚS; C. SÁNCHEZ DEL PUEBLO; J. SANCHEZ GONZALEZ; R. SANCHEZ JIMENEZ; A. SANCHEZ LO-PEZ; A. SÁNCHEZ MOZO; R. SANCHEZ SALAS; A. SÁNCHEZ-ARTEAGA; A.B. SÁNCHEZ-CASADO; N. SANCHEZ-FUENTES; S. SANCHEZ-GARCÍA; T.A. SANCHEZ-GÓMEZ; L. SANCHEZ-GUILLÉN; J.J. SANCHEZ-MÉNDEZ; D. SANCHEZ-PELAEZ; C. SANCHEZ-PEREZ; M. SÁN-CHEZ-ROBLES; C. SANCHEZ-RODRIGUEZ; M. SANCHEZ-RUBIO; M. SANCHEZ-RUBIO; R. SANCHEZ-SANTOS; J. SANCHO-MURIEL; L. SAN-CHON; G. SANDBLOM; J. SANDERS; L. SANDERSON; A. SANDHYA; R. SANDKAMP; M. SANDOVAL; M.J. SANGÜESA; A.N. SANLI; K. SAN-SERINO; R. SANTANA ORTIZ; M. SANTAS; M.S. SANTERO-RAMIREZ; G. SANTHIRAKUMARAN; A.J. SANTINI; O.S. SANTONOCITO; A. SAN-TORO; L. SANTOS; B.C. SANTOS; S.S. SANTOS; P. SANTOS; E. SANTOS; E. SANTOS; P.M. SANTOS; H. SANTOS-SOUSA; A. SANZ LARRAINZAR; R. SANZ LOPEZ; G. SANZ ORTEGA; P. SAPIENZA; D. SAPRE; K.T. SARACOGLU; P. SARAIVA; I. SARANTITIS; A. SARATZIOTIS; R. SARAVANAN; E. SARJANOJA; D.R. SARMA; A. SARMIENTO; J.A. SARMIENTO-BOBADILLA; S. SARNACKI; A.L. SARNI; V. SARODAYA; G. SARPIETRO; K.M. SARRAF; C. SARRE; C. SARRE; S. SARSIK; L. SARTARELLI; J. SARVESWARAN; M.Z. SARWAR; D. SASIA; S. SASO; S. SAUDI-MORO; L. SAURA GARCIA; M. SAUVAIN; F. SAUVAT; P. SAVIC; S. SAXENA; D. SAXENA; A. SAYASNEH; A.K. SAYED; T.O. SAYOMI; R.H. SAYYED; M. SBAIH; S. SCABINI; A. SCALABRE; A.M. SCANU; K. SCHAFFER; H.M. SCHARDEY; J.C. SCHEIJMANS; A. SCHEIWILLER; M. SCHELLENBERG; R. SCHIAVINA; M. SCHIAVO; C. SCHINEIS; E. SCHIPPER; D. SCHIZAS; H.J. SCHLITT; S. SCHMID; F. SCHMITT; A.A. SCHNITZBAUER; G. SCHOLS; T. SCHRECKENBACH; T. SCHREIBER; T.J. SCHROEPPPEL; D. SCHWEITZER; V. SCORCIA; R. SCOTT; L. SCOTT; G. SCOTTON; R.J. SCURRAH; K. SEEBAH; S. SEEGERT; B. SEELIGER; A. SEGUIN-GIVELET; J.J. SEGURA-SAMPEDRO; J. SEHOULI; R. SEIB-ERTH; G. SEIDEL; G. SEITINGER; G.K. SEKHON; A. SELEIM; E. SEMINA; A. SENENT-BOZA; R. SEPULVEDA; M. SERENARI; O.L. SEREVINA; A. SERMON; M. SERRA; P. SERRALHEIRO; D. SERRALTA DE COLSA; J. SERRANO GONZALEZ; M. SERRANO-MARTIN; I. SERT; A. SETHURA-MAN VENKATESAN; J. SEWARDS; K. SEXTON; P. SEYED-SAFI; S. SEYFRIED; J.O. SEYI-OLAJIDE; Z. SEYMOUR; G. SGANGA; A. SGRÓ; A. SHABANA; M. SHACKCLOTH; P. SHAH; S.B. SHAH; S. SHAH; J. SHAH; K. SHAH; H.B. SHAH; M. SHAHINE; K. SHAHZAD; S. SHAIKH; I. SHAIKH; T. SHAKIR; Z. SHAKOOR; M. SHALABY; M. SHALABY; J. SHALHOUB; S. SHAMOON; S. SHANBHAG; S. SHANKAR; S. SHANKAR; A. SHARABIANY; I.M. SHARARA; A. SHARKEY; S. SHARMA; P. SHARMA; N. SHARMA; V. SHARMA; I. SHARMA; C. SHARPIN; H.M. SHARPLES; S. SHAW; A.V. SHAW; A.R. SHEEL; S. SHEHATA; N.A. SHEIKH; A. SHENFINE; K. SHERIDAN; M. SHERIEF; A. SHERIF; G. SHERIF; M. SHERIF; E. SHIBAN; H. SHIELDS; S.J. SHIN; M. SHINKWIN; D. SHMATOV; P. SHOKUHI; T.T. SHOLADOYE; S. SHREAM; D. SHRESTHA; A.K. SHRESTHA; A. SHUGABA; S.B. SHU-YIP; M. SIBILLA; G. SICA; J. SICCHA; N. SIDDAIAH; M.H. SIDDIQUE; T. SIDDIQUI; M.S. SIDDIQUI; A. SIDDIQUI; J. SIEGRIST RIDRUEJO; K.V. SIGAMONEY; M.A. SIGUANTAY; J.M. SIJMONS; P. SILERI; M. SILVA; N. SILVA; M. SILVA; T.P. SILVA; R.L. SILVA; A.H. SILVA; H. SILVEIRA; D.W. SILVESTRE; A. SIMOES; J. SIMÕES; A. SIMONATO; T. SIMONCINI; D. SIMPSON; T. SIMSEK; L.O. SINAN; A. SINCLAIR; R. SINGH; J. SINGH; A.A. SINGH; A. SINGH; B. SINGH; S. SINGH; R. SINGH; R. SINGHAL; T. SINGHAL; K. SINGSETTI; W. SINGLE-TON; D. SINHA; S. SINHA; S. SINHA; M. SION; L. SIRAGUSA; R. SIVAPRAKASAM; S. SIVAYOGANATHAN; B.L. SKELLY; J. SKILLMAN; R.J. SKIPWORTH; C.E. SKOULAKIS; M. SKROVINA; M. SLAVCHEV; D. SLOOTHAAK; C.J. SMART; Y.W. SMART; R. SMEETS; J. SMELT; C. SMETS; R. SMILLIE; D.E. SMITH; H. SMITH; L.A. SMITH; J. SMITH; C. SMITH; C. SMITH; S. SMITH; A. SMITH; B. SMITH; L. SMITH; C. SMITH; D. SNEE;

This document is protected by international copyright laws. No additional reproduction is authorized. It is permitted for personal use to download and save only one file and print only one copy of this Article. It is not permitted to make additional copies (either sporadically or systematically, either printed or electronic) of the Article for any purpose. It is not permitted to distribute the electronic copy of the article through online internet and/or intranet file sharing systems, electronic mailing or any other means which may allow access to the Article. The use of all or any part of the Article for any Commercial Use is not permitted. The creation of derivative works from the Article is not permitted. The production of reprints for personal or commercial use is not permitted. It is not permitted to remove, cover, overlay, obscure, block, or change any copyright notices or terms of use which the Publisher may post on the Article. It is not permitted to frame or use framing techniques to enclose any trademark, logo, or other proprietary information of the Publisher.

A.P. SOARES; A. SOBTI; D. SOCHOROVA; I.M. SOEDA; R. SOFAT; O. SOGAIR; F. SOGGIU; A.H. SOHAIL; C. SOHRABI; C. SOHRABI; C. SOHRA-BI; L. SOLAR-GARCIA; F. SOLARI; C. SOLDEVILA-VERDEGUER; A. SOLER-SILVA; H.M. SOLEYMANI; F. SOLIMAN; A. SOLIMAN; F. SO-LIMENE; P. SOLLI; H. SOLTAN; B. SOMMER; F. SOMMER; J. SONKSEN; F. SORBI; P. SORELLI; D. SORIERO; L. SORRENTINO; M.V. SOSA; E.E. SOSA-DURAN; C. SOTO MONTESINOS; A. SOU; A. SOUADKA; C.E. SOULÉ MARTÍNEZ; R.E. SOULSBY; A.F. SOUSA; S. SOUSA; M. SOUSA FERNANDES; G. SPAGNI; D. SPALDING; M.G. SPAMPINATO; E. SPARTALIS; N. SPENCER; U. SPETH; J. SPICER; E.J. SPILLENAAR BILGEN; A. SPINELLI; D. SPOLETINI; A. SPOLINI; G. SPRIANO; S. SRAVANAM; L. SRBINOVIC; L. SREEDHARAN; P. SREKL-FILZMAIER; S. SRINATHAN; A. SSENTONGO; P. SSENTONGO; G. STABLES; A. STAFFORD; S.A. STAMENKOVIC; M. STANGENBERG; S. STANGER; M. STAVRAKAS; A. STAVROGLOU; G.A. STAVROU; D. STAVROULIAS; B. STEEL; C. STEELE; S. STEFAN; P.J. STEINKAMP; J. STEINKE; O. STEINMETZ; M. STER-RENBURG; P. STEVANOVIC; C.T. STEVENS; K. STEVENS; G.D. STEWART; K.E. STEWART; E. STEYN; M. STIEGLER; T. STOCKDALE; S.J. STOECKLI; D. STOJAKOV; M.G. STOLERIU; M. STOLIAROV; E. STREETER; L. STROMAN; B.M. STUBBS; N. STYLIANIDES; G. STYLIANIDIS; L. SUAREZ; C. SUAZO; C. SUAZO CARMELO; K. SUBBA; H. SUBBIAH PONNIAH; A. SUBOCIUS; A. SUD; A. SUDARSANAM; H. SUFRIN; K. SUGAND; A. SULAIMAN KHALED; S.O. SULE; N. SULEN; T. SULLIVAN; A. SULTAN; A. SULTANA; M. SUND; S. SUNDAR; G. SUNDARAM VENKATESAN; J. SUNDARESAN; M. SUNDHU; A. SURENDRAN; N. SURESHKUMAR SHAH; A. SURI; E. SURMEI; N. SUSZTÁK; J. SUTTON; R. SWAN; C. SWEENEY; A. SYED; S.A. SYED NONG CHEK; A. SYLLAIOS; S.A. STAMENKOVIC; G. SZABO; P. SZATMARY; N. TACTUK; A. TADDEI; D. TADROSS; M. TAFFURELLI; H. TAFLIN; M. TAGGARS; F. TAGHAVI; M. TAGLIABUE; L. TAGLIETTI; A.S. TAHER; G. TAHHAN; W. TAHIR; M.A. TAHLAK; A. TAIB; A. TAIBI; A. TAILOR; E. TAIOLI; J. TAIT-BAILEY; F. TAKEDA; I. TALAL EL-ABUR; N. TALAT; N. TALATHOTI; T. TALBOT; L. TALLÓN-AGUILAR; G. TALWAR; R. TALWAR; A. TAMBIRAJA; M.S. TAMIMY; N. TAMINI; P. TAMMARO; A. TAMPAKIS; X.S. TAN; J.R. TAN; C. TAN; C. TANABALAN; C. TANABALAN; M. TANAL; E.G. TANCINCO; A. TANG; R. TANNA; R. TANSEY; M. TANZANU; C. TAPKING; J. TARGA-RONA; E.M. TARGARONA SOLER; M. TARIQ; X. TARRADO; D. TARTAGLIA; W. TASHKANDI; W. TASHKANDI; N. TASIS; O.C. TATAR; D. TAT-SIS; F. TAVARES; A. TAWHEED; S. TAYEH; O.M. TAYLOR; F.G. TAYLOR; A. TAYLOR; S. TCHOBA; G.D. TEBALA; A. TEBAR ZAMORA; C.M. TEDOY; P.H. TEEUWEN; M.F. TEIXEIRA; J. TEIXEIRA; M.J. TEIXEIRA; P.G. TEIXEIRA; F.J. TEJERO-PINTOR; T. TELES; A. TENOVICI; K. TE-PETES; F.M. TER BRUGGE; M. TESEI; V. TESTA; S. TESTELIN; M. TEUNISSEN; N. TEWARI; S. TEZAS; M.A. THAHA; A. THAKRAR; B. THAKUR; D. THAM; E. THEOPHILIDOU; M.S. THET; G. THIRUCHANDRAN; V.G. THIRUVASAGAM; P. THOENISSEN; S. THOLE; A.Z. THOMAS; M. THOM-AS; A. THOMAS; M. THOMAS; E. THOMAS; K. THOMAS-FERNANDEZ; A. THOMIN; A. THOMPSON; K. THOMPSON; M. THORN-HILL; S. THURMURTHY; F. THUNNISSEN; S. TIERNEY; B. TILL; E.J. TILLING; S. TIMBRELL; C. TIMON; S. TINGLE; P.Y. TINT; L. TIRLONI; F. TIROTTA; A. TIRSIT; A. TIZMAGHZ; S.K. TOH; A. TOJAL; M. TOKOCIN; M.A. TOLANI; M. TOLEDANO; E. TOLEDO MARTÍNEZ; T. TOLLENS; A. TONG; V. TONINI; A. TOULIAS; C. TORIBIO-VÁZQUEZ; J. TORKINGTON; S. TORMEY; P. TORNER; S. TORNESE; A. TORQUATI; A.J. TOR-RES; S. TORRETTA; G. TORZILLI; C. TOSO; J. TOTTY; P. TOUROUNTI; M. TOUSIDONIS; D. TOWNSEND; N. TRABULSI; E. TRAVAGLIO; J. TREBOL; M. TREJO-AVILA; H. TREMBLAY; J. TRICARD; D. TRIGUERO-CÁNOVAS; B. TRILLING; S.S. TRIPATHI; A. TROMPETER; P. TRON-COSO PEREIRA; S. TRUANT; Y. TRUJILLO; L.M. TRUJILLO SANCHEZ; J. TRUJILLO-DÍAZ; M.D. TRUST; L. TSAI; P. TSARKOV; A. TSIAOU-SIDOU; J. TSIAOUSIS; P. TSINASLANIDIS; D. TSOLAKIDIS; G. TSOULFAS; O.N. TUCKER; S.C. TUCKER; A. TUFO; C. TUGMEN; M. TULBAH; G. TULIC; I. TULINA; F. TUMINELLO; K. TUNCER; C. TURCO; A.F. TURGEON; M. TURINA; K. TURK; A. TURNBULL; V. TURRADO-RODRIGUEZ; G. TURRI; H. TUSTIN; M. TUVERI; S. TZEDAKIS; H. TZERBINIS; G. TZOVARAS; A. UBERAL; H.K. UBHI; C. UFF; R. UGARTE OSCCO; B. UGARTE-SIERRA; G. UGOLINI; W. UHL; M. UTTENBOGAART; M. UJIKI; S.J. ULLRICH; S.S. ULUDAG; M. UMAIR; M. UMAR; A. UNNITHAN; S. URANITSCH; S. URBAN; A. URBANI; A. URBIETA; E. URRECHAGA; A. USAI; G. USLU; O. USMAN; J. USSEGLIO; N.Z. UTKAN; A.F. UTRIA; F.G. UZUNOGLU; G. VACCARELLA; K. VACHTSEVANOS; D. VALBUENA; J. VALDES-HERNANDEZ; P. VALENTE; A. VALENTE DA COSTA; J.I. VALENZUELA; C. VALENZUELA-SALAZAR; M. VALERO-SORIANO; A. VALLE RUBIO; M. VALLVE-BERNAL; L. VALSECCHI; V. VALTZO-GLOU; K. VAN BELLE; M.I. VAN BERGE HENEGOUWEN; D. VAN DE PUTTE; W.T. VAN DEN BROEK; J. VAN DEN EYNDE; R. VAN DEN EYNDE; S.W. VAN DER BURG; W. VAN DER MEIJ; M.J. VAN DER OEST; W.Y. VAN DER PLAS; P. VAN DUJVENDIJK; R. VAN EEKEREN; A.A. VAN GEL-OVEN; T.M. VAN GINHOVEN; M. VAN HEINSBERGEN; A.S. VAN PETERSEN; G.H. VAN RAMSHORST; M. VAN SAMBEEK; P.J. VANCOILLIE; R. VANKER; T. VANOUNOU; A. VARAZZANI; M. VARCADA; Y. VARENNE; M. VARGA; J. VARGAS; I. VARLEY; J.G. VARTANIAN; T. VARTANOGLU; R. VASHISHT; M. VASILJEVIC; X.P. VASQUEZ-OJEDA; N. VASSOS; M. VATISH; J. VATISH; P. VAUGHAN; P.G. VAUGHAN-SHAW; C. VAY; S. VAZ; O.P. VAZ; A. VAZQUEZ MELERO; A. VÁZQUEZ-FERNÁNDEZ; V. VEGA; K. VEJSBJERG; A. VELANDIA; B.G. VELASQUEZ CUASQUEN; V. VELCHURU; J.L. VELEZ BERNAL; E. VÉLEZ SEGURA; M. VELIDEDEOGLU; G. VELMAHOS; C.G. VELOPULOS; M. VENN; D. VENSKUTONIS; D. VENTURA; C. VERA MANSILLA; C. VERBERNE; O. VERDONCK; R. VERGARI; C. VERGEL CABRERA; T. VERHAGEN; R. VERMA; M. VER-MAAS; S. VERMERSCH; B.A. VERMEULEN; D. VERVOORT; G. VESCIO; F. VICARIO; E. VICO; R. VIDYA; I. VIEIRA; P. VIEIRA; A.C. VIEIRA PAIVA LOPES; C.L. VIÉTOR; A. VIGNALI; F. VIGOUROUX; V. VIJAY; D. VILAR-COMTE; I. VILLALABEITIA ATECA; B. VILLALONGA-RAMIREZ; I. VILLAMOR GARCIA; V. VILLEFRANQUE; D. VIMALACHANDRAN; K.L. VIOLAGO; T. VIOLANTE; P. VIOLAS; F. VIOTTI; Y. VISWANATH; A. VITALI; L. VITONE; A. VIVAS LOPEZ; M. VIVES-BARQUIEL; R. VOHRA; K.R. VOIGT; T. VOLLEKOMMER; A. VOLPE; E. VOL-PIN; T. VON AHNEN; M. VON AHNEN; M. VON FLUEE; U. VON OPPELL; P. VON THEOBALD; F. VOVOLA; P.W. VRIENS; M.R. VRIENS; D. WAAST; R.G. WADE; B. WADHAM; S. WAHED; S. WAHEED; A. WALI; C. WALKER; D. WALKER; J. WALL; R. WALL; P. WALLAERT; K. WALL-WORK; S.R. WALSH; A. WALTERS; T. WALTON; W. WANG; I.R. WANI; S.H. WAQAR; H. WARBURTON; A. WARD; M. WARIS FAROOKA; O. WAR-REN; S. WASEEM; T. WASIM; K. WASSIM; L.J. WATSON; D. WATTS; H. WEAVER; J.I. WEBB; L. WEBBER; C. WEERASINGHE; J.A. WEGDAM; J. WEITZ; M. WEITZENDORFER; F. WELLS; F. WELLS; T. WELLSCH; J. WEN; F. WENSLEY; J. WERNER; R. WEST; L. WESTH; E. WESTWOOD; S.D. WEXNER; S. WHEATSTONE; M. WHELAN; C. WHELTON; T. WHITE; E. WHITEHALL; H. WHITMORE; A. WHYTE; L. WICKRAMARACHCHI; A.B. WIDATALLA; R. WIDYANINGSIH; R. WILKIN; A. WILKINS; O.M. WILLIAMS; O. WILLIAMS; A. WILLIAMS; J. WILLIAMS; S. WILLIAMS; L. WILLIAMS; K. WILLIAMS; T. WILLIAMS; G. WILLIAMS; M.A. WILLIAMS; S. WILLIAMS; K. WILLIAMSON; K. WILMOTT; M.S. WILSON; P. WINNAND; D. WINTER; S.C. WINTER; J. WINYARD; A. WITEK; A. WOLDE; S. WOLF; E.G. WONG; S. WONG; K. WONG; J.J. WONG; M.L. WOOD; R. WOODS; Z. WOODWARD; M. WORKNEH; D. WORKU; F.L. WRIGHT; H. WYNN JONES; S. XENAKI; M. XICOLA MARTÍNEZ; S. XYDA; E. XYNOS; A. YABAS; S. YALAMANCHILI; O. YALKIN; A. YAMMAHI; C. YANEZ; H. YANG; A. YANISHEV; G. YANOWSKY REYES; M. YAO; E. YAQOUB; N. YASSIN; C. YATES; A. YEBES; A. YENER; A.F. YEPES CANO; D. YERSHOF; P. YESANTHARAO; L. YESANTHARAO; D. YESILYURT; S.G. YETKIN; H. YIGITBAS; A. YILDIRIM; A. YILDIZ; Y. YING; Y. YIP; A. YOUNG; R. YOUNG; M.U. YOUNIS; F. YOUNIS; Y. YOUSEF; E.A. YOUSOF; A. YOUSSEF; M. YOUSSEF; M. YOUSSEF; E. YÜKSEL; C. YURTTAS; D. ZACHAROULIS; F. ZADEGAN; N. ZAFAR; H. ZAHID; D. ZAKAI; R. ZAKARIA; A. ZAKHARENKO; M.F. ZARBELLI; M. ZAMBON; V. ZAMVAR; N. ZANINI; S. ZANOTTI; G. ZANUS; I. ZAPAR-DIEL; A.G. ZARABINI; A. ZÁRATE PINEDO; A. ZAROUR; P. ZARUBENKO; J. ŽATECKÝ; N. ZECEVIC; S.A. ZEGARRA; H. ZEGARRA; M. ZEITON; H. ZELEKE; N. ZELLER; A.K. ZENGIN; S.C. ZEQUI; P. ZERBIB; L.A. ZETA; Y. ZHANG; F. ZHANG; F. ZHENG; H. ZIAD-ABOHARP; L. ZIER; M. ZIMMER-MANN; M. ZIZZO; O. ZMORA; C. ZOGRAFOS; S. ZONTA; D. ZOUZOULAS; A. ZOWGAR; C.E. ZURSTRASSEN.

*Acknowledgements.*—Xiao Liu, Alistair Denniston, Royal College of Surgeons of England COVID-19 Research Group.

*History.*—Manuscript accepted: October 13, 2021. - Manuscript revised: October 8, 2021. - Manuscript received: July 1, 2021.