CONSEQUENCES OF COVID-19

Use of all causes mortality to quantify the consequences of COVID-19 in Nembro, Lombardy: descriptive study

Piccininni M, Rohmann JL, Foresti L, et al.

Nembro, in the Bergamo province of Lombardy, northern Italy. had 11 505 residents as of 1 January 2020. Monthly all causes mortality between January 2012 and February 2020 fluctuated around 10 per 1000 person years, with a maximum of 21.5 per 1000 person years. In March 2020, monthly all causes mortality reached a peak of 154.4 per 1000 person years. For the first 11 days in April, this rate decreased to 23.0 per 1000 person years. The observed increase in mortality was driven by the number of deaths among older people (≥65 years), especially men. From the outbreak onset until 11 April 2020, only 85 confirmed deaths from covid-19 in Nembro were recorded, corresponding to about half of the 166 deaths from all causes observed in that period.

COVID-19 had a considerable impact on the health of a small community. Furthermore, the full implications of the COVID-19 pandemic can only be completely understood if, all causes mortality are considered.

BMJ 2020; 369: m1835.

MODELLING THE COVID-19

Modelling the COVID-19 epidemic and implementation of population-wide interventions in Italy

Giordano G, Blanchini F, Bruno R, et al.

In Italy, 128,948 confirmed cases and 15,887 deaths of people who tested positive for SARS-CoV-2 were registered as of 5 April 2020. A new model that predicts the course of the epidemic to help plan an effective control strategy was proposed. After comparing simulation results with real data on the COVID-19 epidemic in Italy. The model demonstrated that restrictive social-distancing measures will need to be combined with widespread testing and contact tracing to end the ongoing COVID-19 pandemic.

Nature Medicine 2020; 26: 855-60.

OUTBREAK IN VO'

Suppression of a SARS-CoV-2 outbreak in the Italian municipality of Vo'

Lavezzo E, Franchin E, Ciavarella C, et al.

In response, to the first COVID-19 related death detected in Vo', Italy the regional authorities imposed the lockdown of the whole municipality for 14 days. Here we collected information on the demography, clinical presentation, hospitalization, contact network and the presence of COVID-19 infection in nasopharyngeal swabs for 85.9% and 71.5% of the population of Vo' at two consecutive time points. From the first survey, a prevalence of infection of 2.6% (95% confidence interval (CI): 2.1–3.3%) Was found from the second survey, which was conducted at the end of the lockdown, the prevalence was 1.2% (95% CI: 0.8–1.8%). Notably, 42.5% (95% CI: 31.5–54.6%) of the confirmed COVID-19 infections detected across the two surveys were asymptomatic (that is, did not have symptoms at the time of swab testing and did not develop symptoms afterwards). The mean serial interval was 7.2 days (95% CI: 5.9–9.6). No statistically significant difference in the viral load of symptomatic versus asymptomatic infections was found.

This study sheds light on the frequency of asymptomatic COVID-19 infection, their infectivity (as measured by the viral load) and provides insights into its transmission dynamics and the efficacy of the implemented control measures.

Nature 2020; https://doi.org/10.1038/s41586-020-2488-1

RENIN-ANGIOTENSIN-ALDOSTERONE

Renin–Angiotensin–Aldosterone System Blockers and the Risk of COVID-19

Mancia G, Rea F, Ludergnani M, et al.

In a large, population-based study, the use of ACE inhibitors and ARBs was more frequent among patients with COVID-19 than among controls because of their higher prevalence of cardiovascular disease. However, there was no evidence that ACE inhibitors or ARBs affected the risk of COVID-19.

New Engl J Med 2020; 382: 2431-40.

SEVERE KAWASAKI

An outbreak of severe Kawasaki-like disease at the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study

Verdoni L, Mazza A, Gervasoni A, et al.

In Bergamo province, which was extensively affected by the COVID-19 was found a 30-fold increased incidence of Kawasaki-like disease. Children diagnosed after the COVID-19 epidemic began showed evidence of immune response to the virus, were older, had a higher rate of cardiac involvement, and features of MAS. The COVID-19 epidemic was associated with high incidence of a severe form of Kawasaki disease.

Lancet 2020; 395: 1771-8.

PATIENTS WITH CARDIAC DISEASE

Characteristics and outcomes of patients hospitalized for COVID-19 and cardiac disease in Northern Italy

Inciardi RM, Adamo M, Lupi L, et al.

Clinical outcome of 99 patients with and without concomitant cardiac disease, hospitalized for COVID-19 was studied. Fifty-three patients with a history of cardiac disease were compared with 46 without cardiac disease. Among cardiac patients, 40% had a history of heart failure, 36% had atrial fibrillation, and 30% had coronary artery disease. No differences were found between cardiac and non-cardiac patients except for higher values of serum creatinine, N-terminal probrain natriuretic peptide, and high sensitivity troponin T in cardiac patients. During hospitalization, 26% patients died, 15% developed thrombo-embolic events, 19% had acute respiratory distress syndrome, and 6% had septic shock. Mortality was higher in patients with cardiac disease compared with the others (36% vs. 15%). The rate of thrombo-embolic events and septic shock during the hospitalization was also higher in cardiac patients (23% vs. 6% and 11% vs. 0%, respectively).

Eur Heart J 2020; 41: 1821-9.

PATIENTS ADMITTED TO ICUs

Baseline Characteristics and Outcomes of 1591 Patients Infected With SARS-CoV-2 Admitted to ICUs of the Lombardy Region, Italy

Grasselli G, Zangrillo A, Zanella A, et al.

Of time 1591 critically ill patients with laboratory-confirmed COVID-19 admitted to ICUs in Lombardy, Italy, between February 20 and March 18, 2020 the majority were older men, a large proportion required mechanical ventilation and high levels of PEEP, and ICU mortality was 26%.

JAMA 2020; 323; 1574-81.

HOSPITAL SURGE CAPACITY

Hospital surge capacity in a tertiary emergency referral centre during the COVID-19 outbreak in Italy

Carenzo L, Costantini E, Greco M, et al.

Hospital multidisciplinary and departmental collaboration was needed to work on all principles of surge capacity, including: space definition; supplies provision; staff recruitment; and ad hoc training. Dedicated protocols were applied where full isolation of spaces, staff and patients was implemented. Opening the unit and the whole hospital emergency process required the multidisciplinary, multi-level involvement of healthcare providers and hospital managers all working towards a common goal: patient care and hospital safety. Hospitals should be prepared to face severe disruptions to their routine and it is very likely that protocols and procedures might require re-discussion and updating on a daily basis.

Anaesthesia 2020; 75: 928-34.

THROMBOEMBOLIC COMPLICATION

Venous and arterial thromboembolic complications in COVID-19 patients admitted to an academic hospital in Milan, Italy.

Lodigiani C, Iapichino G, Carenzo L, et al.

Hospitalized patients with COVID-19 were characterized by substantial in-hospital mortality and a high rate of thromboembolic complications. Rapidly increasing D-dimer levels were observed in nonsurvivors, reflecting the inflammatory and procoagulant state of COVID-19. The high number of arterial and, in particular, venous thromboembolic events diagnosed within 24 h of admission and the high rate of positive venous thromboembolism (VTE) imaging tests among the few COVID-19 patients tested suggest that there is an urgent need to improve specific VTE diagnostic strategies and investigate the efficacy and safety of thromboprophylaxis in ambulatory COVID-19 patients.

Thromb Res 2020; 191: 9-14.

IG-IBD STUDY

Outcomes of COVID-19 in 79 patients with IBD in Italy: an IG-IBD study

Bezzio C, Saibeni S, Variola A, et al.

Patients with Inflammatory Bowel Disease (IBD) are at increased risk of infection, especially when they have active disease and are taking immunosuppressive therapy. Active IBD, older age and presence of comorbidities have been found to be associated with a higher risk of COVID-19 pneumonia and death in patients with IBD. Concomitant therapy with biologics and immunosuppressants did not associate with worse COVID-19 prognosis in patients with IBD.

Maintaining effective therapy to avoid disease flares in patients with IBD may reduce the risk of fatal COVID-19.

Gut 2020; 69: 1213-7.

FARMACI & NUVOLE di Antonio Addis*

Andrà tutto bene ma non per la ricerca sul COVID-19

Nonostante il necessario ottimismo, anche un poco scaramantico, messo in campo durante la recente pandemia, per la ricerca clinica forse non andrà proprio tutto bene. Il bisogno impellente di trovare una cura, a partire dagli strumenti terapeutici disponibili, ha mobilitato enti regolatori e ricercatori per riuscire ad accelerare i processi di approvazione e verifica che normalmente guidano gli studi di nuove terapie.

Nel giro di circa tre mesi sono stati valutati centralmente, prima dalla Commissione Tecnico Scientifica dell'Agenzia Italiana del Farmaco (AIFA) e poi da un unico comitato etico (presso l'Istituto Nazionale per le Malattie Infettive Lazzaro Spallanzani), circa 150 protocolli di studio che proponevano lo studio delle più diverse strategie terapeutiche nelle diverse popolazioni colpite dal COVID-19. Tutto ciò ha portato all'approvazione di 35 sperimentazioni cliniche di cui è possibile rintracciare le caratteristiche per ogni singolo studio direttamente sul sito dell'AIFA (www.aifa.gov.it/sperimentazioni-cliniche-covid-19). Si è trattato di un grande sforzo che ha mostrato come sia possibile, almeno in un periodo di emergenza, ridurre i tempi di approvazione e verifica degli studi e ottimizzare i processi regolatori.

Ora però sarebbe utile concentrarsi anche su alcuni aspetti critici che questa emergenza ha messo in mostra. Innanzitutto, per quanto l'approvazione di questi studi sia stata accelerata molti degli stessi stentano a vedere la conclusione se non addirittura sono ancora lontani dall'iniziare il reclutamento dei primi pazienti. Gli aspetti più prettamente amministrativi (per esempio assicurazioni, contratti con le strutture di monitoraggio, disponibilità dei farmaci sperimentali, ecc.) che si svolgono a valle dell'approvazione di ogni studio sembra che abbiano frenato molte sperimentazioni e la loro concreta realizzazione.