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

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anti-COVID-19 therapies including drugs with demonstrated and drugs with only hypothetical benefits have been used. Many unapproved therapies including cheaper drugs available as over-the-counter have been marketed. We aimed to review the benefits and toxicities of the main specific drugs used in the critically ill COVID-19 patients.

Method: A narrative review based on published articles in PubMed or as preprints.

Results: Anti-COVID-19 pharmacotherapy mainly consisted in antiviral and immunomodulatory drugs given either in an early stage to strengthen the anti-COVID-19 immunity or in a late stage to limit the extent of the deleterious anti-COVID-19 immune response responsible for the so-called cytokine storm.洛匹那韦/ ritonavir combination and remdesivir have been initially used despite significant liver and renal toxicities but rapidly abandoned due to the absence of limited effectiveness, respectively. The use of hydroxychloroquine and its combination to azithromycin has been also stopped due to the absence of established efficacy in the randomized placebo-controlled studies and the risk of cardiac dysrhythmias in severe COVID-19 patients with organ dysfunction. To date, corticosteroids and anti- interleukin-6 receptor Fab fragments are extensively used due to their demonstrated contribution to limit mortality and severity of COVID-19; however, their use has resulted in marked increase in bacterial and mycological infections, especially in mechanically ventilated patients. Various other drugs such as colchicine and ivermectin are prescribed and the extent of their toxicity in COVID-19 patients is still worthy assessing. Finally, dietary supplements and vitamins including vitamin D and high-dose vitamin C have also been used. Despite an expected excellent tolerance and an interesting rationale to support their anti-COVID-19 activities, their preventive or therapeutic effectiveness has not been confirmed in randomized trials.

Conclusions: The role of clinical toxicologists and poison control centers remains essential to identify drug-related toxicities. Evaluation of anti-COVID-19 drug safety should rely on single or case series and reported side effects in clinical trials. Unapproved treatments should systematically require attention of health authorities.

S03a-03
Impact of the COVID crisis on European Poison Centres

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On behalf of EAPCCT COVID-19 and PCCs activities WG

The pandemic has also crystallized the role of clinical toxicology and identified a new role for clinical toxicologists. Poison Control Centers (PCC) and clinical toxicologists have been committed on several fronts: prevention, including campaigns, collaboration with Government Agencies, toxicovigilance, etc. Our activity in addition to pre-hospital triage of intoxicated patients helped to stabilize the flooded emergency system. An ad hoc EAPCCT Covid-19 Working Group was established so as to evaluate the impact of Covid-19 on European PCCs activities. A pilot study was performed in 4 European PCCs (Copenhagen, Pavia, Utrecht, Zurich) to evaluate critical points on methods, data collection and resources. The study was then extended to all European PCCs to investigate the effect of the Covid-19 pandemic during the first wave on the activities of European PCC. All 65 European PCCs listed in the WHO directory were asked to supply epidemiological data on poisonings (e.g., number of calls, patients, type of caller (medical professional or public), type of exposure (accidental, intentional (all), intentional suicide attempt), and age groups). Investigated exposures were disinfectants, household cleaning products (according to the European Chemicals Agency (ECHA) classification) and drugs, including antivirals. Data was analyzed during a 4-month period (March-June 2020) and compared with the previous two years. Furthermore, all members of EAPCCT were asked to participate in a survey on organizational changes during the COVID-19 pandemic. Results: The study included data from 36 PCCs from 21 countries (55% of EU PCCs), 60 % of Head of PCCs from 24 countries submitted pandemic-related organizational data. Twenty per cent of PCC saw an increase in length of shifts while 42% saw an increase of total number of shifts. 25% indicated an increase of time spent on duties other than PCC activities, such as activities in the emergency departments (35%), intensive care units (12%), and nursing wards (9%). Over 50% of PCCs lacked protocols to manage PCC staffing upon massive sick leave. In contrast safe working protocols were in place in nearly every PCC. No centers reported receiving special funds for activities arising from the pandemic. Conclusion: European PCCs activities vary in different countries. A substantial improvement can be made in many areas such as data harmonization, establishing a European database of poisonings, and an improved network and cooperation of European PCC, and timely toxicovigilance especially in times of global emergencies.

S03a-02
Understanding vaccine-induced immune thrombocytopenia and thrombosis

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Vaccine-induced immune thrombocytopenia and thrombosis (VITT) is a rare but serious complication seen post COVID-19 vaccination, most notably in the UK after the Astra Zeneca vaccines, occurring in 1 per 50,000 vaccines in the under 50s and about 1 per 100,000 in the over 50s.

VITT causes thromboses in both the arterial and venous beds, generally targeting unusual sites, with cerebral venous sinus thromboses accounting for 50% of the thromboses, and splanchic vein thrombosis accounting for another 30%. Thrombosis is associated with thrombocytopenia, often a low fibrinogen and very high D-dimers. The syndrome has many similarities to heparin-induced thrombocytopenia and thrombosis and indeed the same antibody to Platelet Factor 4 is found in VITT and is considered to be the pathogenic cause. This is an immune response and therefore no identifying risk factors have been yet found other than younger age.

The presentation and evolving management will be discussed.