ABSTRACTS FROM CURRENT LITERATURE

Gastrointestinal Manifestations of SARS-CoV-2 Infection and Virus Load in Fecal Samples From a Hong Kong Cohort: Systematic Review and Meta-analysis

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Background & aims: Infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease 2019 (COVID-19), which has been characterized by fever, respiratory, and gastrointestinal symptoms as well as shedding of virus RNA into feces. We performed a systematic review and meta-analysis of published gastrointestinal symptoms and detection of virus in stool and also summarized data from a cohort of patients with COVID-19 in Hong Kong.

Methods: We collected data from the cohort of patients with COVID-19 in Hong Kong (N = 59; diagnosis from February 2 through February 29, 2020),and searched PubMed, Embase, Cochrane, and 3 Chinese databases through March 11, 2020, according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. We analyzed pooled data on the prevalence of overall and individual gastrointestinal symptoms (loss of appetite, nausea, vomiting, diarrhea, and abdominal pain or discomfort) using a random effects model.

Results: Among the 59 patients with COVID-19 in Hong Kong, 15 patients (25.4%) had gastrointestinal symptoms, and 9 patients (15.3%) had stool that tested positive for virus RNA. Stool viral RNA was detected in 38.5% and 8.7% among those with and without diarrhea, respectively (P = .02). The median fecal viral load was 5.1 $\log_{10}$ copies per milliliter in patients with diarrhea vs 3.9 $\log_{10}$ copies per milliliter in patients without diarrhea (P = .06). In a meta-analysis of 60 studies comprising 4243 patients, the pooled prevalence of all gastrointestinal symptoms was 17.6% (95% confidence interval [CI], 12.3-24.5); 11.8% of patients with nonsevere COVID-19 had gastrointestinal symptoms (95% CI, 4.1-29.1), and 17.1% of patients with severe COVID-19 had gastrointestinal symptoms (95% CI, 6.9-36.7). In the meta-analysis, the pooled prevalence of stool samples that were positive for virus RNA was 48.1% (95% CI, 38.3-57.9); of these samples, 70.3% of those collected after loss of virus from respiratory specimens tested positive for the virus (95% CI, 49.6-85.1).

Conclusions: In an analysis of data from the Hong Kong cohort of patients with COVID-19 and a meta-analysis of findings from publications, we found that 17.6% of patients with COVID-19 had gastrointestinal symptoms. Virus RNA was detected in stool samples from 48.1% patients, even in stool collected after respiratory samples had negative test results. Health care workers should therefore exercise caution in collecting fecal samples or performing endoscopic procedures in patients with COVID-19, even during patient recovery.

Vitamin K deficiency bleeding in Australian infants 1993-2017: an Australian Paediatric Surveillance Unit study

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Objective: To undertake surveillance of vitamin K deficiency bleeding (VKDB) in Australia from 1993 to 2017, during a time of change to national recommendations and available vitamin K formulations.

Methods: Paediatricians reported cases of VKDB in infants aged <6 months and provided demographic, clinical and biochemical information via the Australian Paediatric Surveillance Unit.

Results: 58 cases were reported, of which 5 (9%) were early, 11 (19%) classic and 42 (72%) late VKDB. 53 (91%) were exclusively breast fed. Seven (12%) received oral prophylaxis, the majority (86%) of whom did not receive all three recommended doses. The overall reported incidence was 0.84 per 100 000 live births (95% CI: 0.64 to 1.08) and the incidence of late VKDB was 0.61 per 100 000 live births (95% CI: 0.44 to 0.82), which are similar to rates reported by other countries where

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intramuscular vitamin K is recommended. VKDB rates were significantly higher (2.46 per 100 000 live births; 95% CI: 1.06 to 4.85) between 1993 and March 1994 when oral prophylaxis was recommended ($p<0.05$). Vitamin K was not given to 33 (57%) cases, primarily due to parental refusal, and the number of parental refusals increased significantly after 2006 ($p<0.05$). There were six deaths, all due to intracranial haemorrhage, and three associated with home delivery and parental refusal of vitamin K.

Conclusions: Incidence rates of VKDB in Australia are among the lowest in the world; however, we have identified an increasing trend of parental refusal. Ongoing surveillance and educational campaigns for health professionals and parents are needed to prevent VKDB.

Hyponatraemia despite isotonic maintenance fluid therapy: a time series intervention study

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Objective: To examine the prevalence of dysnatraemias among children admitted for paediatric surgery before and after a change from hypotonic to isotonic intravenous maintenance fluid therapy.

Design: Retrospective consecutive time series intervention study.

Setting: Paediatric surgery ward at the Children's Hospital in Lund, during a 7-year period, 2010–2017.

Patients: All children with a blood sodium concentration measurement during the study period were included. Hypotonic maintenance fluid (40 mmol/L NaCl and 20 mmol/L KCl) was used during the first 3 years of the study (646 patients), and isotonic solution (140 mmol/L NaCl and 20 mmol/L KCl) was used during the following period (807 patients).

Main outcome measures: Primary outcomes were sodium concentration and occurrence of hypona-traemia (<135 mmol/L) or hypernatraemia (>145 mmol/L).

Results: Overall, the change from hypotonic to isotonic intravenous maintenance fluid therapy was associated with a decreased prevalence of hyponatraemia from 29% to 22% (adjusted OR 0.65 (0.51-0.82)) without a significantly increased odds for hypernatraemia (from 3.4% to 4.3%, adjusted OR 1.2 (0.71-2.1)). Hyponatraemia <130 mmol/L decreased from 6.2% to 2.6%, and hyponatraemia <125 mmol/L decreased from 2.0% to 0.5%.

Conclusions: Routine use of intravenous isotonic maintenance fluids was associated with lower prevalence of hyponatraemia, although hyponatraemia still occurred in over 20% of patients. We propose that the composition and the volume of administered fluid need to be addressed.

Breaking bad news: what parents would like you to know

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Objective: Breaking bad news about life-threatening and possibly terminal conditions is a crucial part of paediatric care for children in this situation. Little is known about how the parents of children with life-threatening conditions experience communication of bad news. The objective of this study is to analyse parents' experiences (barriers and facilitators) of communication of bad news.

Design: A qualitative study consisting of a constant comparative analysis of in-depth interviews conducted with parents.

Setting: The Netherlands.

Participants: Sixty-four parents-bereaved and non-bereaved-of 44 children (aged 1-12 years, 61% deceased) with a life-threatening condition.

Results: Based on parents' experiences, the following 10 barriers to the communication of bad news were identified: (1) a lack of (timely) communication, (2) physicians' failure to ask parents for input, (3) parents feel unprepared during and after the conversation, (4) a lack of clarity about future treatment, (5) physicians' failure to voice uncertainties, (6) physicians' failure to schedule follow-up conversations, (7) presence of too many or unknown healthcare professionals, (8) parental concerns in breaking bad news to children, (9) managing indications of bad news in non-conversational contexts, and (10) parents' misunderstanding of medical terminology.

Conclusions: This study shows healthcare professionals how parents experience barriers in bad news conversations. This mainly concerns practical aspects of communication. The results provide practical pointers on how the communication of bad news can be improved to better suit the needs of parents. From the parents' perspective, the timing of conversations in which they were informed that their child might not survive was far too late. Sometimes, no such conversations ever took place.