



Fig. 1: Case-fatality rate for SARS in Taiwan, Canada and Hong Kong.²⁻⁶

markedly to a peak of about 45% and then stabilized at about 15% in June.

In Canada the first case of SARS was reported on Feb. 23 and the first 10 deaths were reported on Apr. 7. The case-fatality rate on that date was 38.5%; it fell to about 20% by the end of April and stabilized at about 17% in late June.

Finally, in Hong Kong case-fatality rates were very high (about 71%) early in the outbreak but later fell to about 17%.

According to recent data from Hong Kong,⁸ hospital death rates among patients at least 60 years of age peaked sharply at about 12 days after admission, whereas younger patients showed maximal (and lower) peak death rates at about 18 days. Thus, to understand the differences in case-fatality rates over time and between countries it is important to take age into account. Another factor that might explain initially high rates is physicians' lack of clinical experience with the disease early in the outbreak. Published reports^{9,10} suggest wide variation in therapy, which might also affect outcome. In addition, there has been considerable speculation that there may be different genetic forms of the virus (i.e., different degrees of virulence

for the same virus) or that the virus has become less virulent over time.

Wing K. Fung

Philip L.H. Yu

Department of Statistics and Actuarial Science

The University of Hong Kong
Hong Kong, China

References

1. SARS: the struggle for containment [editorial]. *CMAJ* 2003;168(10):1229.
2. Health Canada Online: SARS updates. Ottawa: Health Canada; 2003. Available: www.hc-sc.gc.ca/english/protection/warnings/sars/sars_update.htm (accessed 2003 Jul 21).
3. Health Canada Online: Summary of severe acute respiratory syndrome (SARS) cases: Canada and international. Available: www.hc-sc.gc.ca/pphb-dgsp/sars-sras/eu-ae/index.html (accessed 2003 Jul 21).
4. News bulletin. Hong Kong: Hong Kong Department of Health; 2003. Available: www.info.gov.hk/dh/new/bulletin/bullet.htm (accessed 2003 Jul 22).
5. Issues of SARS News. Taiwan: Center for Disease Control, Department of Health; 2003. Available: www.cdc.gov.tw/En/ShowTopicText.ASP?TopicID=177 (accessed 2003 Jul 22).
6. Cumulative number of reported probable cases of severe acute respiratory syndrome (SARS). Geneva: World Health Organization; 2003. Available: www.who.int/csr/sarscountry/en (accessed 2003 Jul 4).
7. Atypical pneumonia cases in Taiwan (2003/3/17). Taiwan: Center for Disease Control, Department of Health; 2003. Available: 203.65.72.83/En/dpc/ShowPublication.ASP?RecNo=814 (accessed 2003 Jul 14).

8. Donnelly CA, Ghani AC, Leung GM, Hedley AJ, Fraser C, Riley S, et al. Epidemiological determinants of spread of causal agent of severe acute respiratory syndrome in Hong Kong. *Lancet* 2003; 361:1761-6. Available: image.thelancet.com/extras/03art4453web.pdf (accessed 2003 Jul 4).
9. Parry J. SARS shows no sign of coming under control. *BMJ* 2003;326(7394):839.
10. An appropriate response to SARS [editorial]. *Lancet Infect Dis* 2003;3:259.

Pediatric diabetic ketoacidosis

We read with interest the recent review of diagnosis and treatment of diabetic ketoacidosis by Jean-Louis Chiasson and associates.¹ However, it was unclear whether the therapeutic approach was being recommended for all patients, regardless of age.

We feel that diabetic ketoacidosis should be approached and treated differently in children. In particular, the risk of cerebral edema is significantly higher in children and adolescents: the reported incidence ranges from 0.7% to 3%, and this complication is associated with substantial morbidity (21% to 35%) and mortality (20% to 25%). Although the mechanism and risk factors remain controversial, it appears that the risk is higher among those presenting with new-onset diabetes,^{2,3} with lower initial partial pressure of carbon dioxide and higher initial blood urea suggesting more severe acidosis and dehydration.³ Possible aspects of treatment include rapid administration of hypotonic fluids^{4,5} and use of bicarbonate.²

As a result of these factors, pediatric treatment protocols recommend more conservative fluid replacement.^{6,7} Whereas Chiasson and associates¹ recommend starting with 15 to 20 mL/kg of isotonic saline, for children the recommendation is 5 to 10 mL/kg in the first hour, with higher rates used only in patients with significant hemodynamic compromise. Fluid replacement should be calculated over a 48-hour period. In addition, the use of bicarbonate is not routine for all pediatric patients with pH less than 7.0, and bicarbonate may in fact increase the risk of cerebral edema in children.² We agree with the recommendation not to give an intra-

venous bolus of insulin at the initiation of insulin therapy.

Many children present to emergency departments staffed by physicians who have a wealth of experience in the management of adult patients with diabetic ketoacidosis but who may not be familiar with the different management considerations required for children and adolescents with this condition. We feel it is important to increase awareness of the more conservative fluid management recommended for pediatric patients, in the hope that this may decrease the incidence of cerebral edema and improve outcomes.

Sarah Lawrence

Danièle Pacaud

Heather Dean

Margaret Lawson

Denis Daneman

Pediatric Section

Clinical Practice Guideline Expert Committee

Canadian Diabetes Association
Toronto, Ont.

References

1. Chiasson JL, Aris-Jilwan N, Bélanger R, Bertrand S, Beauregard H, Ékoé JM, et al. Diagnosis and treatment of diabetic ketoacidosis and the hyperglycemic hyperosmolar state. *CMAJ* 2003;168(7):859-66.
2. Edge J, Hawkins MM, Winter DL, Dunger DB. The risk and outcome of cerebral edema developing during diabetic ketoacidosis. *Arch Dis Child* 2001;85:16-22.
3. Glaser N, Barnett P, McCaslin I, Nelson D, Trainor J, Louie J, et al, for the Pediatric Emergency Collaborative Research Committee of the American Academy of Pediatrics. Risk factors for cerebral edema in children and adolescents with diabetic ketoacidosis. *N Engl J Med* 2002;344:264-9.
4. Duck SC, Wyatt DT. Factors associated with brain herniation in the treatment of diabetic ketoacidosis. *J Pediatr* 1988;113:10-4.
5. Harris GD, Fiordalasi I, Harris WL, Mosovich LL, Finberg L. Minimizing the risk of brain herniation during treatment of diabetic ketoacidemia: a retrospective and prospective study. *J Pediatr* 1990;117:22-31.
6. Rosenbloom AL, Hanas R. Diabetic ketoacidosis (DKA): treatment guidelines. *Clin Pediatr (Phila)* 1996;35:261-6.
7. Carlotti APCP, Bohn D, Halperin ML. Importance of timing of risk factors for cerebral oedema during therapy for diabetic ketoacidosis. *Arch Dis Child* 2003;88:170-3.

[One of the authors responds:]

Sarah Lawrence and colleagues are correct: our paper addresses hyperglycemic decompensation in adults

only. This was clearly stated in the introduction in an early version of the manuscript, but the information was inadvertently omitted from the final, shortened version. However, the target age group is mentioned in the caption for Fig. 2 of our article.

Jean-Louis Chiasson

Head, Research Group on Diabetes

and Metabolic Regulation

Université de Montréal

Montréal, Que.

Reference

1. Chiasson JL, Aris-Jilwan N, Bélanger R, Bertrand S, Beauregard H, Ékoé JM, et al. Diagnosis and treatment of diabetic ketoacidosis and the hyperglycemic hyperosmolar state. *CMAJ* 2003;168(7):859-66.

Opt out, not opt in

According to a document recently published by the US Centers for Disease Control and Prevention,¹ the province of Ontario, which uses an opt-in approach to prenatal screening for HIV infection, had an abysmal testing rate of only 54%. Such a low rate is clearly unacceptable. Critics of the opt-out strategy argue that it eliminates a woman's autonomy and that it is unethical to perform such an important test without true informed consent. However, given that antiretroviral therapy in HIV-positive pregnant women can potentially reduce vertical transmission rates from about 25% to less than 2%, as reported by Sharon Walmsley in her recent commentary,² is there really any argument for continuing to offer testing on an opt-in basis?

Mark H. Yudin

Obstetrics, Gynecology, & Reproductive Infectious Diseases

St. Michael's Hospital

Toronto, Ont.

References

1. US Centers for Disease Control and Prevention. HIV testing among pregnant women — United States and Canada, 1998-2001. *MMWR Morbidity Mortal Wkly Rep* 2002;51:1013-6.
2. Walmsley S. Opt in or opt out: What is optimal for prenatal screening for HIV infection? [editorial]. *CMAJ* 2003;168(6):707-8.

The drivers of self-discharge

Richard Saitz suggests that intravenous drug use, dates of distribution of welfare cheques and other factors may be reasons for patients wanting to be discharged from hospital against doctors' orders.¹

But has Saitz ever been a patient on an acute care surgical ward? I was admitted to hospital for removal of my gallbladder, which led to an 8-day stay because full open surgery and insertion of a Jackson-Pratt drain were required. Besides the abominable food and resultant hunger and acid reflux, the constant noise (beeping IV pumps and ringing telephones) prevented sleep, day or night. The nurses were fantastic but should have been issued roller skates. Around 4 am there was generally a lull and I was able to doze off, only to be awakened by someone pushing the door open to see if I was OK. Getting back to sleep was almost impossible. Add to all this the patient down the hall who was smoking in his room (I am allergic to smoke), and you can understand why I announced on day 8 that if the doctor did not sign my discharge, I intended to discharge myself.

Anne Sutton Brown

Montréal, Que.

Reference

1. Saitz R. Discharges against medical advice: time to address the causes. *CMAJ* 2002;167(6):647-8.

[The author responds:]

Anne Sutton Brown's experience does not invalidate the systematic observations made in methodologically rigorous studies such as that by Anis and associates¹ or in other work that I cited in drawing my conclusions.² Nonetheless, these studies are clearly not representative of all experiences. For example, the experiences of HIV-positive patients in Vancouver may not apply to patients undergoing gallbladder surgery in Montréal, and vice versa.

As I stated in my editorial,² "the most important void in the literature on discharges against medical advice is the