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LETTERS TO THE EDITOR

Dear Editor,

PRESENTATION OF PAEDIATRIC TYPE 1 DIABETES IN MELBOURNE, AUSTRALIA DURING THE INITIAL STAGES OF THE COVID-19 PANDEMIC

Since the commencement of social isolation in the COVID-19 pandemic (first case, 25 January; restrictions commenced, 13 March), paediatric diabetes centres across Australia have voiced concerns about an apparent reduction in new presentations of type 1 diabetes mellitus (T1DM).

Reports from Italy and the USA have described delayed hospital presentations with severe diabetic ketoacidosis (DKA) at first presentation with T1DM during the COVID-19 pandemic.[1,2] To date, there are no published Australian data on the impact of COVID-19 on childhood T1DM presentations.

Combined, the Royal Children's Hospital Melbourne and Monash Children's Hospital oversee the management of the majority of paediatric T1DM in Victoria (~80%).[3] An audit of new presentations of T1DM (both total numbers and proportion presenting in DKA) was conducted across both sites from February to May for the years 2017–2020 inclusive. The severity of DKA at presentation (mild = pH 7.2–7.35, bicarbonate >10; moderate = pH 7.1–7.2, bicarbonate 5–10; severe = pH <7.1, bicarbonate <5) and admissions to the intensive care unit (ICU) were recorded.

The absolute number of new presentations of T1DM between February and May in 2020 was similar to previous years, although 2019 represented an unexplained relative increase in numbers (Table 1). DKA severity and ICU admissions were similar for all years. Based on a combined estimation from 2017 to 2019, there was no difference between the expected rate of DKA (42.5 vs. 51.7%, $P = 0.2$) or severe DKA (37.2 vs. 43.3%, $P = 0.5$) in 2020. No individual was diagnosed with COVID-19.

The overall incidence of paediatric T1DM is increasing, but total numbers and severity of presentations fluctuate over time.[4] Concerns regarding increased severity at presentation with paediatric T1DM (due a perceived reduction in access to health-care services and broader community fear in the setting of the pandemic) have not been borne out in this data. While no statistical difference in the proportion of new presentations requiring ICU admission was seen in 2020, the twofold increase in ICU admissions may reflect the unexpected increase in bed capacity (possibly due to decreased surgical procedures and a reduction in ED presentations). The successful avoidance of the projected pandemic-related health-care crisis in Australia in the period reported herein may explain the difference compared to reports from more severely impacted regions. The potential impact of the COVID-19 pandemic and subsequent societal changes on paediatric T1DM presentations in Australasia is not yet known and ongoing collaborative data collection at a national or Australasian level is required.

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Conflict of interest: None declared.

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2 Cherubini V, Gohil A, Addala A *et al*. Unintended consequences of COVID-19: Remember general pediatrics. *J. Pediatr.* 2020; **223**: 197–8.

Table 1

	2017	2018	2019	2020	p
Number diagnosed (February–May), *n*	58	57	89	58	
Male, *n* (%)†	39 (67.2)	29 (50.9)	50 (56.2)	32 (55.2)	0.3
ICU admission, *n* (%)†	8 (13.8)	8 (14.6)	9 (10.1)	15 (25.9)	0.07
DKA, *n* (%)†	20 (34.5)	25 (43.9)	41 (46.1)	30 (51.7)	0.3
Mild†	6 (30)	10 (40)	19 (46.3)	6 (20)	0.1
Moderate†	4 (20)	6 (24)	9 (21.9)	11 (36.7)	0.5
Severe†	10 (50)	9 (36)	13 (31.7)	13 (43.3)	0.5

†Between year proportions were analysed using a χ^2 test.
ICU, intensive care unit; DKA, diabetic ketoacidosis.

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4 Patterson CC, Harjutsalo V, Rosenbauer J *et al*. Trends and cyclical variation in the incidence of childhood type 1 diabetes in 26 European centres in the 25 year period 1989-2013: A multicentre prospective registration study. *Diabetologia* 2019; **62**: 408–17.

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Dear Editor,

RARE CASE OF POTT'S DISEASE CAUSED BY BACILLUS-CALMETTE GUÉRIN VACCINE

A previously well 13-month-old girl presented with gradual loss of ability to stand and crawl over a 2-month period. Physical examination revealed spastic paraparesis, bilateral extensor plantar responses and hyperreflexia of her legs. Magnetic resonance imaging of the spine demonstrated an extradural tissue mass from C5 to T4 causing cord compression and simultaneous disease involvement of T1/2 vertebral bodies. Overall, the features were suspicious for neuroblastoma (Fig. 1a,b). She underwent laminoplasty and biopsy of the extradural mass. Histopathology reported granulomatous inflammation (Fig. 1c). She was commenced on anti-tuberculous treatment consisting of rifampicin, isoniazid, ethambutol and pyrazinamide. Pyrazinamide was stopped when *Mycobacterium bovis* Bacillus-Calmette Guérin (BCG) was confirmed on Acid-Fast Bacillus (AFB) culture of the mass, with the remaining treatment continued for a 9-month course. She had received the BCG vaccine (Tokyo strain) at birth and did not consume any unpasteurised cow's milk. Investigations for immunodeficiency, including immunoglobulin levels, lymphocyte subsets, testing for Mendelian susceptibility to mycobacterial disease and next generation sequencing tests for primary immunodeficiencies, all returned negative. She has since caught up on her developmental milestones, with resolution of spastic paraparesis, and at 21 months old is able to walk independently.

We present a rare case of Pott's disease caused by BCG vaccine. Although magnetic resonance imaging is the imaging modality of choice for Pott's disease, with high sensitivity and specificity,[1] our case suggests that its presentation can mimic spinal tumours. BCG vaccine is a live attenuated strain of *M. bovis,* and is routinely administered at birth to all newborns in Singapore since the mid-1950s to prevent tuberculosis.[2] Although generally well tolerated, local complications, such as ulcers, abscesses or regional suppurative lymphadenitis may occur.[3] In view of the current considerations that immune-boosting properties from BCG vaccine can act as a protective measure against COVID-19 infection,[4] it is important to note that rare, severe and potentially fatal complications such as disseminated BCG infection may occur, even in otherwise immunocompetent individuals. Correct diagnosis and initiation of appropriate therapy in BCG Pott's disease is important to reduce the risk of permanent deformities and paraplegia. Patients should also be concurrently investigated for an underlying immunodeficiency.

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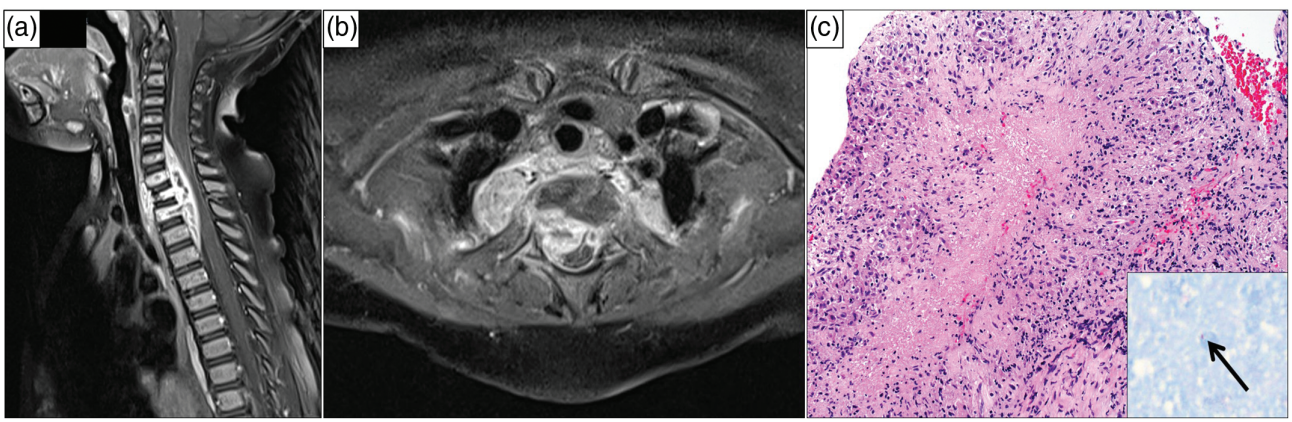

Fig 1 (a,b) Representative magnetic resonance imaging spine images showing a soft tissue mass in the spinal canal from C5 to T4, extending perivertebrally anteriorly and involving T1-2 vertebral bodies, with spinal cord compression in sagittal (a) and axial at T1/2 level (b) views. (c) Haematoxylin and eosin stain photomicrograph showing necrotizing granulomatous inflammation (×100). Inset – Ziehl-Neelsen stain reveals an acid-fast bacillus (arrow).