

Lockdown during the COVID-19 pandemic: impact on infants with pyloric stenosis

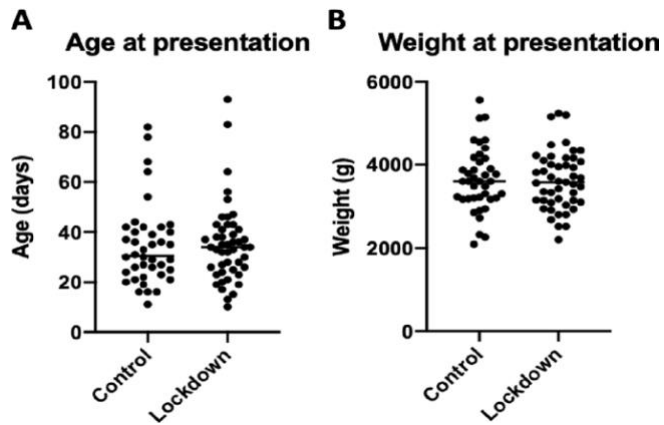
The COVID-19 pandemic has posed challenges for the delivery of healthcare for infants with disruption to 6-week health checks and health visitor services. An area of particular concern is late presentation to the hospital.² However, current data do not offer an objective picture of how significant a problem this may be, with other reports showing low rates of delays in presentation.³ Infantile hypertrophic pyloric stenosis (IHPS) is a common, non-infective infantile condition with a predictable clinical course and therefore a good indicator condition to assess for delays in presentation. We aimed to assess whether infants with IHPS presented later during 'lockdown' compared with the same period the preceding year.

Ten centres within the UK (England, Scotland and Northern Ireland) contributed data from babies with IHPS via a website (covidinchildren.co.uk) between 23 March 2020 and 31 May 2020 (the COVID-19 lockdown period) and between 23 March and 31 May 2019 (controls). A total of 87 eligible infants were included, comprising 40 controls (46%) and 47 cases (54%). The demographic and baseline characteristics of the two groups were similar (table 1 and figure 1).

Median age and weight at presentation in the control group were 31 days (24–41) and 3600 g (3190–4081), and those in the lockdown group were 34 days (26–41) and 3580 g (3120–4085). These differences were not statistically significant ($p=0.64$, $p=0.84$) (figure 1). The change in standardised weight loss was also comparable. (table 2). Patients requirement for preoperative intensive care and serum biochemistry was also similar except the lockdown group had a statistically but not clinically significant higher serum potassium (4.16 vs 4.5 mmol/L, $p=0.04$) (table 2).

As an indicator condition, we have some reassurance that infants with IHPS have not had a significantly delayed presentation due to the COVID-19 lockdown. A recent objective study looking at paediatric presentations to emergency departments found very low numbers of delayed presentations to the hospital, with minimal associated morbidity.^{3 4} Prompt, proactive changes to National Health Service 111 algorithms, guidance for parents by the Royal College of Paediatrics and Child Health⁵ and the rapid uptake of virtual general practice and health visitor consultations may have avoided morbidity. Further work, focusing on different types of conditions, or different subsections of society will help provide useful information relating to the impact of societal lockdown on healthcare-seeking behaviour in the UK and will enable more effective delivery of healthcare provision and public messaging in the event of further lockdowns.

Figure 1. Comparison between the age at presentation (A) and admission weight (B) of infants with IHPS in the control period (2019) and the lockdown period. No significant difference is seen between the two groups (age at admission $p=0.64$, admission weight $p=0.84$). IHPS, Infantile hypertrophic pyloric stenosis.



	Control (n=40)	Cases (n=47)	P value
	n (%)*	n (%)*	
Sex			
Female	4 (10)	7 (15)	0.53
Male	36 (90)	40 (85)	
Comorbidities			
Major	2	4	0.79
Minor	6	6	
None	32	37	
	Median (IQR)	Median (IQR)	
Gestational age at birth (completed weeks)	39 (38–40)	39 (37–40)	0.49
Birth weight (g)	3600 (3190–4083)	3580 (3120–4085)	0.84
*% of those with complete data.			

Table 2 Comparison of the primary and secondary outcome measures for infants presenting during the lockdown and control periods			
	Control (n=40)	Lockdown (n=47)	P value
Preoperative PICU admissions	2 (5)*	2 (4.2)*	>0.99
	Median (IQR)	Median (IQR)	
Age at admission (days)	31 (24–41)	34 (26–41)	0.64
Admission weight (g)	3600 (3190–4083)	3580 (3120–4085)	0.84
Preoperative admission to PICU, n (%)	2 (5)	2 (4.2)	0.99
Admission serum pH	7.47 (7.43–7.51)	7.47 (7.42–7.51)	0.89
Serum bicarbonate (mmol/L)	33 (27.35–38.27)	29.1 (25.3–34.0)	0.15
Serum chloride (mmol/L)	97 (90.5–101.0)	100 (94–108)	0.08
Serum potassium (mmol/L)	4.16 (3.7–4.7)	4.5 (4.1–5.0)	0.04
Standardised weight change—birth to admission, z score	-1.03 (-1.61 to -0.64)	-1.21 (-1.44 to -0.92)	0.55
*% of those with complete data.			
PICU, paediatric intensive care unit.			

REFERENCES

- 1 NHS England. COVID-19 prioritisation within community health services 2020.
- 2 Lynn RM, Avis JL, Lenton S, *et al.* Delayed access to care and late presentations in children during the COVID-19 pandemic: a snapshot survey of 4075 paediatricians in the UK and Ireland. *Arch Dis Child* 2021;106:e8.
- 3 Roland D, Harwood R, Bishop N, *et al.* Children's emergency presentations during the COVID-19 pandemic. *The Lancet Child & Adolescent Health* 2020;4:e32–3.
- 4 Roland D, Nijman R, Ponmani C, *et al.* Arriving late, delayed, or not at all—presentations to paediatric emergency departments during COVID-19 pandemic. *The BMJ Opinion* 2020 <https://blogs.bmj.com/bmj/2020/08/15/arriving-late-delayed-or-not-at-all-presentations-to-paediatric-emergency-departments-during-covid-19-pandemic>
- 5 RCPCH. Advice for parents during coronavirus, 2020. Available: https://www.rcpch.ac.uk/sites/default/files/2020-04/covid19_advice_for_parents_when_child_unwell_or_injured_poster.pdf