GP201 INCIDENCE AND CLINICAL PRESENTATION OF SEROLOGICALLY CONFIRMED PAEDIATRIC LYME DISEASE IN IRELAND OVER A 5 YEAR PERIOD

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Background and aims Despite the fact that one of the peaks of Lyme disease incidence occurs in childhood, there are no population-based studies of incidence in children in Ireland, or indeed Europe. We aimed to identify the incidence and clinical presentation of serologically confirmed Lyme disease in patients aged 1–18 years in Ireland over a 5-year period.

Methods A cross-sectional survey was conducted across all four laboratories in Ireland who perform in-house ELISA testing for *Borrelia* species (accredited to ISO 150189 standard). Between 2012–2016, all paediatric samples that were ELISA positive underwent confirmatory Western Blot testing through the Lyme Reference laboratory in the UK. For patients who were two-tier positive, an anonymous proforma was distributed by the respective Irish laboratories to their requesting clinicians to collect clinical details regarding their presentation, treatment and outcome.

Results 64 patients aged 1–18 with two-tier positive *Borrelia*-serology were identified, representing just 2% of 2914 samples tested (1.1 per 100,000 children aged 1–18 per year). Proformas were returned for 52 (87%), of whom 48 (92%) had a clinical presentation consistent with Lyme disease. The mean age at presentation was 9.5 years. 27 (51.9%) cases were reportedly contracted in Ireland, predominantly in the west, and 22 children (45.8%) recalled a tick bite.

27 (56%) children in our cohort were characterised as having Lyme Disease (LD) without focal symptoms. 19 (70%) of those had solitary erythema migrans, and 3 (11.1%) had multiple erythema migrans. 92.5% of those with LD without focal symptoms were treated with oral antibiotics. Full symptom resolution was documented in 88.8% of cases.

20 (41.6%) children were characterised as having LD with focal symptoms. 11 (22.9%) had cranial nerve palsy without associated CNS involvement, and one child (2%) had arthritis. 8 children (16.6%) had LD with central nervous system involvement. Of the 19 children with CNS or cranial nerve involvement, 7 (36.8%) had a history of erythema migrans, involving the head/neck in all cases. Full symptom resolution was documented in 95% of children with LD with focal symptoms.

There were no cases of carditis. No patient had a post Lyme disease syndrome. Of the 44 children in our cohort with documented antimicrobial treatment, treatment duration was appropriate in 39 cases (88.6%).

Conclusions Despite increasing public awareness, Lyme disease remains rare in Irish children. Presentation was predominantly with erythema migrans and neurological manifestations and importantly, all children for whom data were available, recovered with no long-term sequelae

GP202 ABSTRACT WITHDRAWN

GP203 PAEDIATRIC NOSOCOMIAL AND HEALTH CARE WORKER TRANSMISSION DURING MEASLES OUTBREAK, DUBLIN 2018

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Background Despite achieving measles elimination status in 2018, Ireland remains vulnerable to measles outbreaks following imported cases. Overall uptake of two doses of MMR vaccine is suboptimal. Pockets of under immunised populations vulnerable to measles reflect anti-vaccination sentiment as well as difficulty accessing services among deprived and marginalised communities. A measles outbreak occurred in North Dublin in July 2018 with important public health and health service implications including nosocomial paediatric transmission and health care worker transmission in an adult hospital.

Methods A delayed diagnosis of measles in a child recently returned from Europe was the index case in a measles outbreak which spread in healthcare settings and within an inner city area. Epidemiological investigation determined demographic characteristics, vaccination status and transmission pathways of cases. Management of the outbreak included isolation, contact tracing, exclusions, and post exposure prophylaxis with MMR vaccine and immunoglobulin for appropriate contacts. Public health alerted general practitioners, adult and paediatric emergency departments, microbiologists and occupational health physicians to the outbreak. Social inclusion and community health services supported targeted control measures for vulnerable exposed communities. An extensive awareness campaign was undertaken involving print, radio, TV and geo-targeted social media messaging.

Results There were 17 confirmed cases. Eight (47.1%) occurred in adults and nine (52.9%) in children. Four (23.5%) were under 12 months old. Two (11.8%) were health care workers with complete MMR vaccination and reported relatively mild illness. Thirteen cases (76.5%) attended emergency departments and four (23.5%) required hospitalisation. Eleven (64.7%) were unvaccinated, including four infants (23.5%). The primary case was travel acquired; household transmission occurred in seven cases (41.2%); nosocomial transmission occurred in six cases (35.3%) and in three cases (17.6%) the route of transmission was unknown. Over 400 children were exposed in emergency healthcare settings resulting in three attributable cases. Measles transmission also occurred between paediatric in-patients. Eight infants received human normal immunoglobulin following exposure.

Implications Following an imported case of measles, transmission occurred from multiple healthcare exposures and within under-vaccinated households in socially deprived areas. This outbreak highlighted: delayed recognition of measles facilitating nosocomial transmission; unusual clinical presentations among adults; vulnerable unvaccinated populations including children under 12 months and transmission to vaccinated healthcare workers which did