PostScript

LETTERS

Detection and follow up of infants at risk of congenital syphilis

We note with interest the findings reported by Cross *et al* regarding the risk of an increase in the number of cases of congenital syphilis in the UK.[1] Following three babies with congenital syphilis presenting to this hospital in 2003, we carried out an audit to investigate the treponemal antibody prevalence in sera collected at booking from the antenatal clinic, assess the adequacy of antibiotic therapy of pregnant women with suspected syphilis, and check the follow up of their infants.

Maternal booking bloods from March 2000 to February 2002 were reviewed for positive treponemal serology. The screening assay detected total treponemal antibody (IgG and IgM). A rapid plasma reagin (RPR) and *Treponema pallidum* particle agglutination (TPPA) assay were carried out if a sample was reactive. All women with positive treponemal serology detected for the first time on antenatal screening should be treated as if they had syphilis, irrespective of the recognised cross reactivity with yaws, pinta, and bejel. The case notes of mothers with positive serology were reviewed and the adequacy of treatment sufficient to prevent vertical transmission of syphilis assessed.[2] Samples collected from infants born in the study period were assessed in which ''syphilis serology'' had been requested. The case notes of those with positive treponemal serology were reviewed. Overall, 8517 women were screened, of whom 70 had positive treponemal serology (seroprevalence = 0.8%) and 62 (89%) were of Afro-Caribbean origin. Forty three of the 70 women were diagnosed for the first time during pregnancy (fig 1). Twenty three received inadequate treatment to prevent vertical transmission. Five women, in whom syphilis had been diagnosed previously, received inadequate treatment. Four women had early latent syphilis, one had been inadequately treated and had the pregnancy terminated. Twenty seven women who had received suboptimal therapy had evidence of late latent syphilis (more than two years since infection). Of the 63 infants born at this hospital, 23 did not have a record in their notes of positive maternal treponemal serology, 29 (46%) were screened at birth, 9 (14%) at 3 months, 5 (8%) at 6 months, and 1 (1.5%) at 1 year.

In this study, we have shown a high prevalence of antenatal treponemal infection well over the national average.[3] Difficulties were identified in the screening and follow up of the infants of women with positive treponemal serology, including inadequate identification of infants at risk and poor outpatient clinic reattendance. Together with the findings reported from southwest London,[1] we suggest that these problems are not merely a local phenomenon. In order to address the issues highlighted in our study, maternal results are now included in the infants' notes, contact tracing methods similar to those used in sexual health clinics are being applied to non-attenders, and a specific team including a named paediatrician, health advisor, and phlebotomist are based in the sexual health clinic to ensure that consistency in follow up is maintained.

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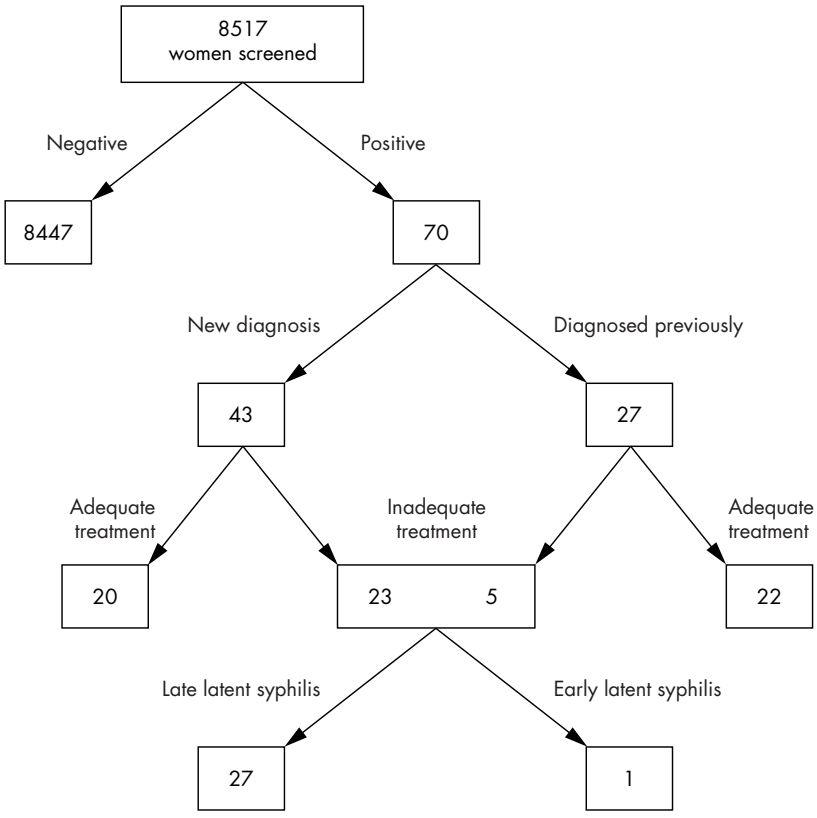

Figure 1 The outcome of women screened for treponemal antibodies in the antenatal clinic.

Respiratory health and baby swimming

Although baby swimming programmes are very popular, there are no reliable data on the potential advantages and risks of this practice for the child's development.[1] In particular, no study has evaluated the possible effects of exposing babies to the volatile chlorination products of indoor pools that recently have been found to affect the lung epithelium and to increase asthma risks.[2–4]

We examined a total of 341 schoolchildren aged 10–13 years who were recruited from 10 primary schools in the same area of Brussels, after informed consent was obtained from their parents. The institutional ethics committee approved the study protocol. Among participants, 43 had followed a baby swimming programme before the age of 2 years. Levels of active and combined chlorine in the attended swimming pool were within recommended limits (below 1.5 and 2 mg/l, respectively). Concentrations of trichloramine in pool air ranged from 170 to 540 $\mu g/m^3$ (mean 325 $\mu g/m^3$, n = 7) and were probably in the same range 10 years ago since operating conditions had remained unchanged. Information about the health of children and their exposure to risk factors of asthma and allergy was obtained from a questionnaire completed by the parents. Lung epithelium integrity was assessed by measuring serum Clara cell protein (CC16) and surfactant associated protein D (SP-D).[5] Total and aeroallergens specific IgE in serum were also measured (DPC, LA). Asthma was defined as doctor diagnosed asthma and/or a

Table 1 Lung epithelium integrity and respiratory health of children having followed a swimming baby programme

	Swimming baby (n = 43)	Other children (n = 298)	p value
Age (mean, SD), years*	11.5 (0.6)	11.5 (0.6)	0.98
Boys, n (%)†	22 (51.1)	150 (50.3)	0.92
Mother and/or father with asthma, n (%)†	6 (14.0)	58 (19.5)	0.39
Aeroallergen specific serum IgE, n (%)†	13 (30.2)	95 (31.9)	0.83
Total serum IgE (median, IQR), kUI/l‡	54.7 (24.6–162)	55.8 (21.9–175)	0.96
Serum CC16 (mean, SD), µg/l*	8.0 (3.3)	10.4 (4.2)	0.01
Serum SP-D (mean, SD), µg/l*	113 (42)	100 (45)	0.08
Serum CC16/SP-D ratio (median, IQR)‡	0.07 (0.05–0.12)	0.10 (0.07–0.16)	0.003
Asthma†	10 (23.3)	33 (11.1)	0.025
Recurrent bronchitis†	26 (60.5)	110 (36.9)	0.006

CC16, Clara cell protein; SP-D, surfactant associated protein D; IQR, interquartile range.
*Two sided unpaired *t* test; †χ^2 test; ‡two sided Mann-Whitney U test.

positive exercise induced bronchoconstriction test (based on a 15% fall of FEV_1).[3] Backyard multiple and logistic regression analyses were used to further assess associations between baby swimming practice and the outcomes by testing a total of 23 potential predictors, including classical risk factors (for example, gender, serum IgE, and family history of allergic diseases).

There were no statistically significant differences between the swimming baby group and the other children regarding the proportion of children whose mother or father had asthma, the mean levels of total serum IgE, and the prevalence of aeroallergen specific serum IgE (table 1). Children who had been swimming as babies showed a significant decrease of serum CC16 and an even more significant decrease of the serum CC16/SP-D ratio, adjusting serum CC16 for the permeability of the alveolar-capillary barrier.[5] In multivariate analyses, baby swimming emerged as the only statistically significant predictor of serum CC16 (partial $r = -0.14$, $p = 0.01$); this practice was the strongest determinant of the CC16/SP-D ratio (log transformed values, partial $r = -0.15$, $p = 0.006$). These effects were associated with higher risks of asthma and recurrent bronchitis, as confirmed by logistic regression analyses (adjusted odds ratio for asthma 3.0, $p = 0.01$; adjusted odds ratio for recurrent bronchitis 2.6, $p = 0.006$).

Our data suggest that swimming baby practice in chlorinated indoor pools can be associated with distal airways alterations predisposing children to the development of asthma and recurrent bronchitis. While an increase of serum SP-D reflects an increased permeability of the alveolar-capillary barrier, the reduction of serum CC16 means a loss of the Clara cells lining the terminal airways.[5] These effects might result from repeated inhalation of chlorination products, in particular of trichloramine, the irritant gas formed when chlorine reacts with organic matter brought by swimmers and that gives indoor swimming pools their typical chlorine smell.[2 3] A link between swimming as a baby and more frequent recurrent respiratory diseases has also been observed in a recent study.[6] Although these findings need to be confirmed by prospective studies, we recommend caution before regularly taking babies to poorly ventilated indoor pools where there is a strong chlorine smell.

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MMR Catch up Campaign: reasons for refusal to consent

Following the adverse publicity regarding MMR vaccine,[1] MMR vaccination rates have declined. Kingston had the highest uptake of MMR in London (83–87% in 2003–04), but is still below the national target.[2] A targeted MMR Capital Catch up Campaign was introduced by the London NHS for the estimated 90 000 primary school children (aged 4–11 years) susceptible to measles (received less than two doses).

We conducted a descriptive study looking at parents' reasons for refusing MMR vaccination, analysing retrospectively all returned consent forms, from 50 primary schools from the Royal Borough of Kingston (fig 1), between December 2004 and April 2005. Parents were asked to indicate one of three options: consent to vaccination; refusal of vaccination; or no need for vaccination (as child had already received two doses of MMR). They were also given access to evidence based information on the MMR vaccination. Parents who refused consent were invited to state the reason(s) why. For the purpose of the study, the forms were anonymised to ensure confidentiality. Consequently individual follow up of cases was not possible.

All children were targeted because of poor baseline data on previous MMR immunisations. We summarised the responses into 13 different categories (fig 2). Of the main reasons given, 23% stated they wished to be present with their children during the vaccination and would prefer to have the vaccination done at the GP surgery. The autism/bowel disorder controversy scored highly (16%), as did concern regarding side effects of the vaccine or previous reactions. Three per cent stated a medical contraindication, such as receiving immunosuppressive therapy or

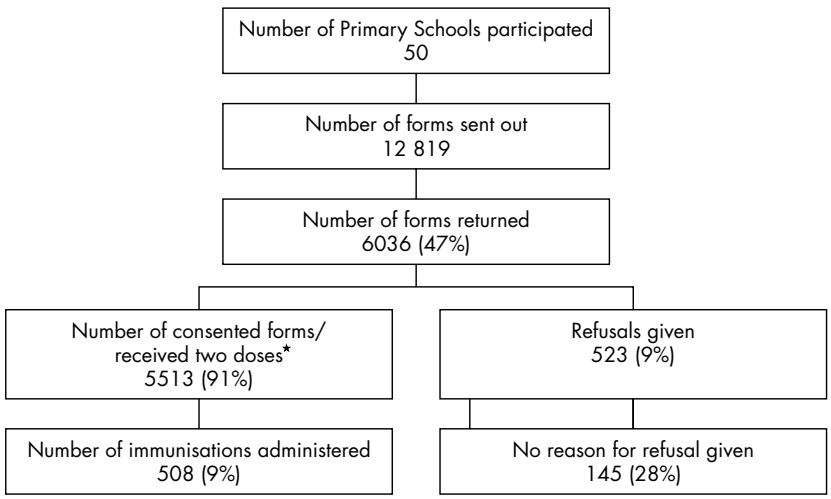

Figure 1 Profile of MMR Catch up Campaign in the Royal Borough of Kingston. There were no accurate baseline data on previous MMR immunisations; therefore all children were targeted in the 50 participating schools. Consent forms were given to children in schools to hand to their parents. Completed forms were handed back to school. For the purpose of the study, the forms were anonymised to ensure confidentiality. Reasons for refusal were analysed using Excel. *These two groups were counted together.