Impact of National Institute for Health and Care Excellence Tuberculosis Guideline 2016 on Paediatric Latent Tuberculosis Screening in Newcastle upon Tyne Hospitals NHS Foundation Trust

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Aims: To assess the impact of National Institute for Health and Care Excellence Tuberculosis Guideline 2016 (NICE TB 2016) on the screening and diagnosis of latent TB (LTB) in Newcastle.

Methods: A retrospective case notes review of children (0-16 years) referred to the Newcastle paediatric TB screening clinic following contact with an index case of pulmonary or laryngeal TB between 2011 and 2018. The Newcastle TB contact tracing database was accessed, paediatric patients identified and clinic letters reviewed on the electronic patient record.

Data collected included number of children with active TB (ATB) and LTB, mantoux test results and Bacille Calmette-Guerin (BCG) status. A secondary search for children who had not been screened but presented acutely with ATB was done to assess for undisclosed contacts with index cases of TB.

NICE TB 2016 defines mantoux induration >5mm in diameter as diagnostic of TB infection, irrespective of previous BCG vaccination (‘positive’). Previous guidelines (NICE TB 2006) defined positive mantoux > 5mm only for BCG naïve and >=15mm for non-BCG naïve patients. Data were analysed to establish how quickly new mantoux diagnostic criteria were implemented and to evaluate their impact on caseload.
Results:

**Figure 1:** Consort flow chart illustrating results

- 418 Paediatric Patients identified from TB database
- 155 Children School Screening
- 263 Children identified Clinic Screened
- 2 positive IGRA but not screened (1.2%)
- 5 out of region
- 238 Screened
- 20 Notes not available
- 7 TB (2.9%)
- 37 LTB (15.5%)
- 194 No TB (81.5%)

**Figure 2:** Bar chart to show results of Paediatric TB contact tracing from 2011-2016
There were 6 Newcastle-resident children who presented acutely with active TB between 2011 and 2018, 3 of whom (50%) were subsequently found to be undisclosed contacts of an index case but missed through contact tracing.

Of 217 patients who had mantoux tests between 2011 and 2016, 21 patients (9.7%) would have been classified as ‘positive’ according to NICE TB 2016.

Since January 2016, when new guidance was introduced, there were 74 mantoux tests carried out of which 22 were positive and resulted in treatment. Two tests were inappropriately categorised as negative as they were interpreted as per previous guidelines. Both of these occurred before June 2016.

Of the 22 patients diagnosed with LTB since January 2016, 13 (59%) were diagnosed solely on the basis of new mantoux criteria. This represents more than two-fold increase in patients treated compared to previous criteria.
Figure 4: Line graph to show percentage of ‘positive’ mantoux results 2011-2018 according to NICE TB 2016 criteria and effect on LTB infection diagnoses.