UK National Screening Committee

Screening for toxoplasmosis in the antenatal and newborn periods

15 June 2016

Aim

1. To ask the UK National Screening Committee (UK NSC) to make a recommendation, based upon the evidence presented in this document, whether or not screening for toxoplasmosis meets the UK NSC criteria to support the introduction of a population screening programme.

   This document provides background on the item addressing screening for toxoplasmosis.

Current recommendation

2. The 2011 review considered screening for toxoplasmosis in the antenatal and newborn periods. The review concluded that a systematic population screening programme should not recommended in either the antenatal or newborn periods.

   Newborn screening was not recommended due to the absence of RCTs conducted to evaluate the potential benefits and adverse effects from treatment.

   Antenatal screening was not recommended due to concerns on the reliability of the test in the pregnant population and there being no clear evidence that prenatal treatment reduces mother to fetus transmission or the severity of the condition's effects on the infected child. There were also concerns for the adverse effects of currently available treatments. In addition, the effect of congenital toxoplasmosis on developmental and visual impairment in later childhood remained unknown.

Review

3. This condition is being reviewed as part of the UK NSC's three year review cycle and has been undertaken by Dr Jean Chapple. The review focuses on the main questions identified in the previous review relating to the condition, primary prevention, test and treatment.

4. The conclusion of this review is to not screen for toxoplasmosis. The key reasons to support the conclusion are:

   a. The condition: in the UK population the burden of congenital toxoplasmosis and the proportion of women who are susceptible to a primary infection remain uncertain. **Criteria 1 and 2 not met.**

   b. The test: in the newborn period a small number of studies using dried blood spots reported test performance measures in keeping with the previous review, these being moderate sensitivity and high specificity. In the antenatal period, previous reviews reported high false positive rates. Recent papers have focused on the limited adherence to screening protocols which require testing at multiple antenatal appointments for those initially found to be sero-negative. **Criterion 5 not met.**

   c. The treatment: no studies have been published since the previous review which suggests that treatment in the antenatal period reduces the risk of transmission to the fetus. It also remains unclear whether treatment in the antenatal or neonatal period can reduce the severity of congenital infection. Some antibiotics used in pregnancy are associated with harms to the mother and fetus.
   Criterion 9 not met.

Consultation

5. A three month consultation was hosted on the UK NSC website. 14 organisations were contacted directly. **Annex A**

6. No responses were received.

Recommendation

7. The committee is asked to approve the following recommendation:

   A systematic population screening programme for toxoplasmosis is not recommended.

UK National Screening Committee

Based upon the 22 UK NSC criteria to recommend a population screening programme, screening for toxoplasmosis in antenatal and newborn period, did not meet the following primary requisites:

Criteria		Met / Not met
The Condition		
1	The condition should be an important health problem as judged by its frequency and/or severity. The epidemiology, incidence, prevalence and natural history of the condition should be understood, including development from latent to declared disease and/or there should be robust evidence about the association between the risk or disease marker and serious or treatable disease.	Not met ✗
The Test		
4	There should be a simple, safe, precise and validated screening test.	Not met ✗
The Intervention		
9	There should be an effective intervention for patients identified through screening, with evidence that intervention at a pre-symptomatic phase leads to better outcomes for the screened individual compared with usual care. Evidence relating to wider benefits of screening, for example those relating to family members, should be taken into account where available. However, where there is no prospect of benefit for the individual screened then the screening programme shouldn't be further considered.	Not met ✗

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Annex A

List of organisations contacted:

1. British Infection Association
2. Encephalitis Society
3. Faculty of Public Health
4. Infection Prevention Society
5. Rare Diseases UK
6. RC GPs
7. RC Midwives
8. RC Nursing – Woman's Forum
9. RC Pathologists
10. RC Physicians
11. Royal College of Obstetricians and Gynaecologists
12. Royal Society of Medicine
13. Save Babies Through Screening Foundation UK
14. Tommy's Organisation