Annual evidence update on antenatal screening for sickle cell and thalassaemia, and newborn screening for sickle cell disease

June 2007

Nicola Pearce-Smith, Information Scientist

A literature search was performed to find citations on antenatal screening for sickle cell and thalassaemia, and newborn screening for sickle cell disease, published between May 06 and June 07.

SOURCES SEARCHED: Medline, Embase, Cochrane Library, National Library for Health

SEARCH STRATEGY

Ovid Medline

1. (sickle adj cell$1).tw.
2. (sickle adj trait$1).tw.
3. (haemoglobin adj s).tw.
4. (hemoglobin adj s).tw.
5. (sickle adj disease).tw.
6. exp Anemia, Sickle Cell/
7. (hemoglobinopath$ or haemoglobinopath$).tw.
8. (thalassaemia$ or thalassemia$).tw.
9. exp Hemoglobinopathies/
10. exp Thalassemia/
11. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12. screen$3.tw.
13. (test or tests or testing).tw.
14. detect$3.tw.
15. opportunistic.tw.
16. targeted.tw.
17. universal.tw.
18. selective.tw.
19. mass screening/ or genetic screening/ or neonatal screening/
20. exp Genetic Counseling/
21. (counseling or counselling).tw.
22. prevalence/
23. exp Sensitivity/ and Specificity/
24. nanotechnology.tw.
25. exp Nanotechnology/
26. exp Spectrum Analysis, Mass/
27. (tandem MS or tandem mass spectrometry).tw.
28. exp Follow-Up Studies/
29. stroke prevention.tw.
30. (genetic risk$ or clinical risk$).tw.
31. isoelectric focusing.tw.
32. (HPLC or high performance liquid chromatography).tw.
33. (family origin$ or question$).tw.
34. exp Genetic Predisposition to Disease/
35. (bloodspot or blood spot).tw.
36. 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35
37. (antenatal or pregnan$).tw.
38. neonat$2.tw.
39. preconcept$.tw.
40. population$.tw.
41. carrier$.tw.
42. (homozygous or heterozygote$1).tw.
43. Homozygote/ or Heterozygote/
44. Prenatal Diagnosis/ or Pregnancy/
45. exp Infant, Newborn/
46. 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45
47. 11 and 36 and 46

The titles of these 150 citations are listed at the end of this document in their classification categories.
No quality assurance is implied by their inclusion.
150 relevant results were classified into the categories below

- Systematic reviews / 6
- Non-systematic reviews / 5
- Guidelines / 6
- Epidemiology / 4
- Genetic mutations / 11
- Prevalence / 10
- Informing / 5
- Attitudes / 8
- Screening / 24
- Counselling / 2
- Diagnosis / 17
  - Preimplantation Genetic Diagnosis / 5
  - Disease outcomes / morbidity / 33
- Management/Programmes / 9
- Cost / 1
- Audit / 4
References

SYSTEMATIC REVIEWS (6)


GUIDELINES (6)


   http://www2.warwick.ac.uk/fac/med/research/hsri/emergencycare/jrcalc_2006/guidelines/sickle_cell_crisis_2006.pdf


**NON-SYSTEMATIC REVIEWS (4)**


**EPIDEMIOLOGY (4)**

**Europe**


**Africa**

Caribbean


GENETIC MUTATIONS (11)


PREVALENCE (10)

South America


Asia


North America


Africa


Europe


INFORMING/INVITING (5)

Antenatal (3)

- parents/patients


- physicians


Neonatal (2)

-parents


ATTITUDES (8)

Antenatal (7)

- women/population (4)


- physicians (2)


-women and midwives (1)


Neonatal (1)

- physicians


SCREENING (24)

Antenatal (9)


Neonatal (6)


General (9)


Counselling (2)


PREIMPLANTATION GENETIC DIAGNOSIS (5)


DISEASE OUTCOMES / MORBIDITY (33)


30. Flickinger C. In search of red blood cells for alloimmunized patients with sickle cell disease. *Immunohematology*. Vol 22(3)(pp 136-142), 2006


**MANAGEMENT / PROGRAMMES (9)**

**Antenatal (6)**

**Middle East**


**Europe**

Asia


North America


Neonatal (2)

Europe


Antenatal and Neonatal (1)

Europe


COST (1)

Asia

AUDIT (4)


4. Mueller BU, Martin KJ, Dreyer W, Bezold LI, Mahoney DH. Prolonged QT interval in pediatric sickle cell disease. *Pediatric*