Reducing Antibiotic Use In Newborn Infants By Correctly Identifying At Risk Maternal Sepsis

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Introduction

Maternal sepsis is a risk factor for suspected neonatal sepsis. Therefore, correctly identifying maternal sepsis decreases both the commonest causes of direct maternal death and provides a targeted approach to the efficient management of suspected neonatal sepsis. Despite national uptake of the adult sepsis tool, a tool specifically designed for maternal sepsis is not widely used. Our quality improvement project and audit was performed to identify neonates screened for sepsis as a result of suspected or confirmed sepsis in pregnant women at Watford General Hospital (WGH) in the month of November 2016.

Aims

1) To identify whether pregnant mothers were correctly identified as having sepsis and how sepsis was confirmed.

2) To analyse if neonates were subsequently correctly screened and treated as a result of the maternal sepsis status.

Standards

1) In 100% of cases of suspected maternal sepsis, the WGH adult sepsis proforma should be used for maternal sepsis diagnosis.

2) In 100% of cases, neonates of screening tool positive mothers should also be screened and treated for suspected sepsis (NICE guidance CG149).

Methods

Case notes and laboratory results for neonates started on antibiotics for suspected maternal sepsis in 1month (November 2016) were analysed. The maternal notes of these infants were also scrutinised for adherence to the standardised adult diagnostic tool.

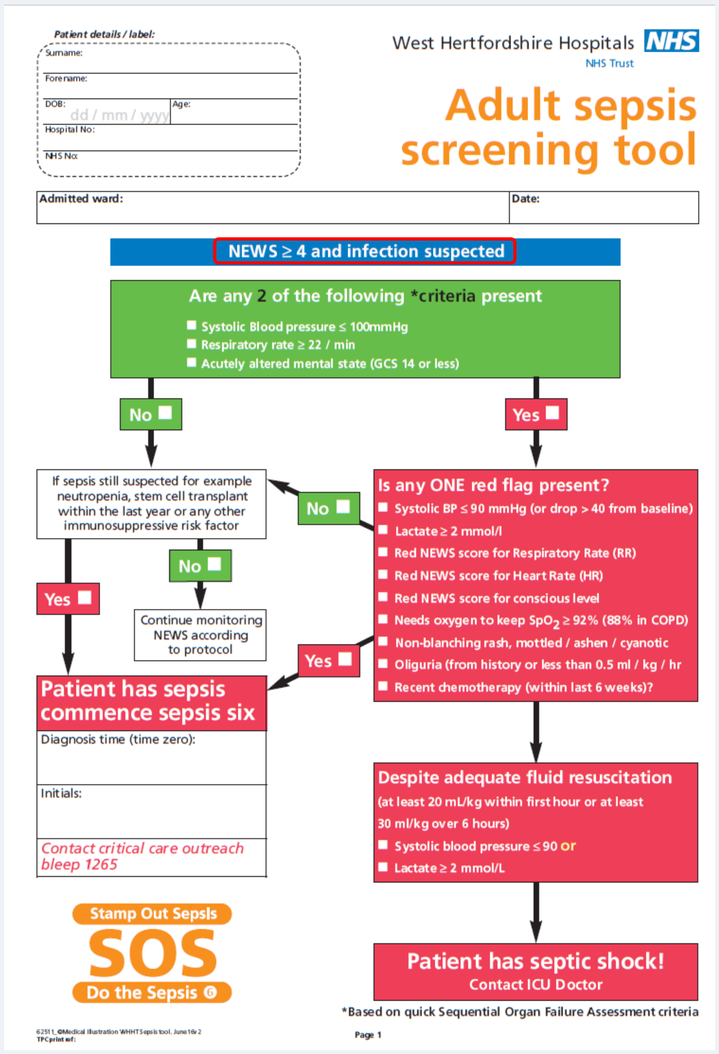
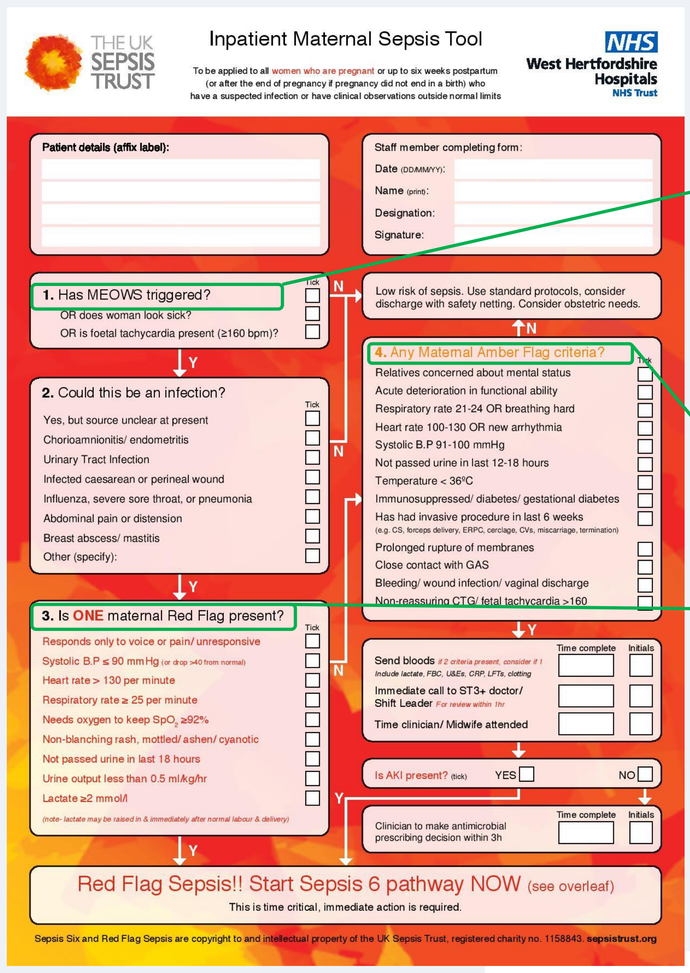


Fig. 1
Note how WGH sepsis tool is an adult sepsis tool requiring NEWS >4 to trigger sepsis screening. Maternal observations are measured as MEOWS (Maternal Early Obstetric Warning Score) therefore use of the tool on maternity was not applied.

Results

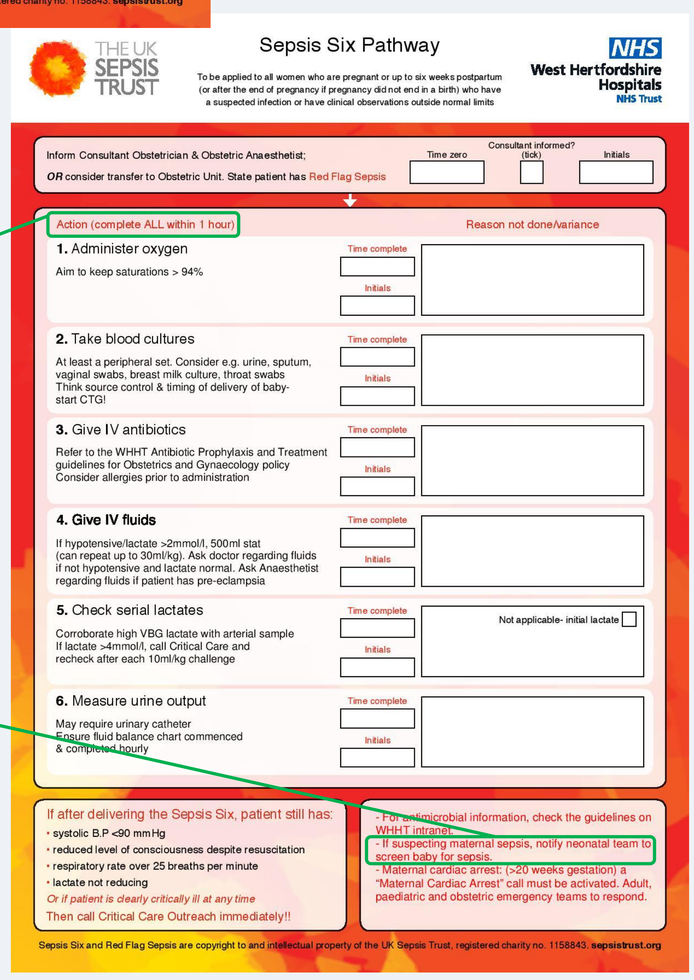
- 14 neonates were treated for sepsis due to suspected maternal or confirmed sepsis.
- 100% were screened and treated correctly as per national guideline.
- None of the neonates had confirmed sepsis.
- None of the maternal cases had used the local adult sepsis tool (Figure 1) and none had positive blood cultures.
- MEWS scoring rather than NEWS scoring for maternal sepsis

Fig. 2 Below the updated maternal sepsis tool used at WGH



Use of MEOWS triggering sepsis screening rather than NEWS as reflects abnormal maternal parameters better

Presence of a single maternal red flag prompts immediate sepsis screening whereas presence of amber flags prompting further time to consider diagnosis



Outlining the Sepis Six actions with more specific maternal considerations e.g. vaginal swabs, caution of fluids in pre-eclampsia

Prompting importance of informing neonatal team as suspected maternal sepsis is a red flag risk factor to screen neonates for sepsis

Conclusion

Maternal physiology is known to be different to that of non-pregnant adults. For this reason, the adult sepsis tool is not used in maternity. However, had this tool been used, none of the cases would have scored as suspected maternal sepsis. Therefore, WGH has adapted parameters for maternal sepsis from non-pregnant adult sepsis guidelines and contemporaneous obstetric guidelines. A local maternal sepsis screening tool was adapted from The UK Sepsis Trust (Figure 2). **The anticipated benefit is that of a targeted approach to the diagnosis of maternal sepsis and subsequent efficient screening and treatment of suspected sepsis in the newborn**. This project identifies a need for specific maternal rather than generic adult sepsis screening tools as management of the mother affects the subsequent management of the neonate

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