



The importance of microRNA-23a in diagnosis neonatal sepsis



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Background: sepsis remains the third leading cause of morbidity and mortality in neonatal period. The ability to diagnose neonatal sepsis rapidly and reliably based on clinical assessment and laboratory blood testing remains a challenge. Furthermore, due to a scarcity of samples, research is extremely challenging. The aim of this study was to investigate the role of microRNA-23a in the diagnosis of neonatal sepsis.

Materials and methods

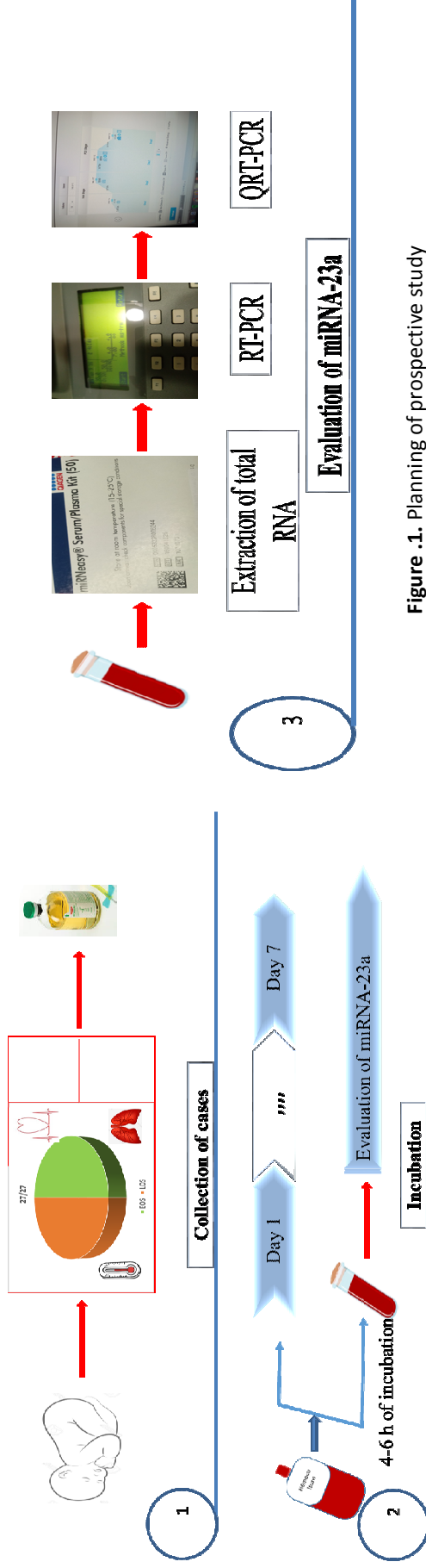


Figure .1. Planning of prospective study



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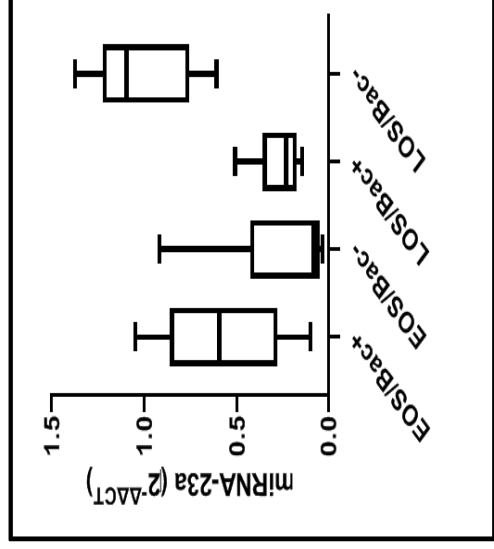
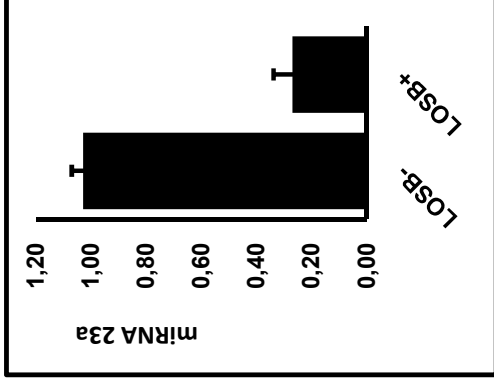
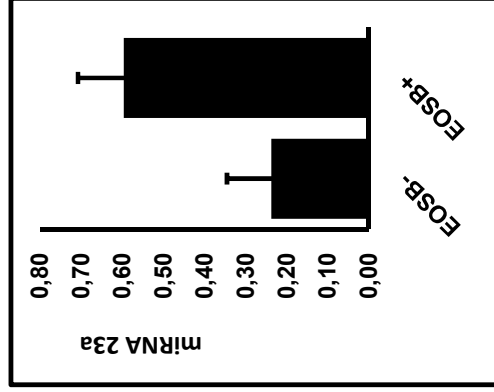
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groupes	P value t test
EOSBac-/EOSBac+	0,904
LOSBac-/LOSBac+	0,031
EOSBac+/LOSbac+	0,029

Figure 2: Changes in miRNA-23a expression levels in early onset sepsis (EOS) and late onset sepsis (LOS)

Results: We have shown that miRNA-23a expression levels increased in full-term newborns in the case of EOS without significance ($p < 0,904$), but decreased in LOS in full-term ($p < 0,031$) when compared to the respective negative controls. We have also observed that these levels are different between the first days of life and other week, with the level of miRNA-23a increasing in LOS negative controls compared to EOS negative controls ($p < 0.05$).

Conclusions: Despite the limited number of samples, these results collectively demonstrate that miR-23a is involved in the host response to neonatal sepsis. Therefore, the decrease in miRNA-23a expression levels would undoubtedly be an important factor favoring the development of sepsis and suggesting their utility as a biomarker in both molecular diagnosis and patient monitoring.