Oxford Nanopore Technologies

Rapid detection of intra-amniotic infections in clinical research

Thidathip Wongsurawat is driven to improve patient outcomes through addressing unmet needs. Explore why she is researching the rapid capabilities of Oxford Nanopore technology to get answers with impact.

'The accessibility and portability of this sequencing technique are features that promise a timely point-of-care test to detect intra-amniotic infection in the clinical setting in order to improve the clinical care of mothers and newborns'[1]

Dr Thidathip Wongsurawat
Mahidol University, Thailand

Sequencing that keeps up with you

Ask bolder questions

Intra-amniotic infections are a risk factor for neonatal morbidity and mortality[2,3]. Early and accurate detection of the responsible infectious species and antimicrobial resistant genes is therefore critical to help inform appropriate treatment. Culture-based methods take days and miss unculturable bacteria, so there is an urgent need to find an alternative method[1,2].

Supercharged sequencing possibilities

15 mins
to identify bacterial genus with adaptive sampling method[2]

40 mins
sequencing with a GridION™ device for ~30x coverage of *Enterococcus faecium* genome[3]

3/5 cases
where nanopore sequencing identified additional bacteria[1]

Ureaplasma
and other difficult-to-culture bacteria could be identified[1]

Reveal more biology

Thidathip's research has identified infectious agents from tissue, amniotic fluid, and pus, using targeted and whole-genome nanopore sequencing approaches[1–3]. Not only were the methods found to accurately identify pathogens, but the significant reduction in time to answer suggests that clinical decisions could be made quicker in the future, improving patient outcomes[1–3].

'This method [potentially] provides fast, accurate identification of a pathogen and its antimicrobial resistant genes'[2]

Read more about end-to-end bacterial isolate sequencing

References

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Oxford Nanopore Technologies

www.nanoporetech.com

phone +44 (0)845 034 7900
email support@nanoporetech.com
oxford-nanopore-technologies
@nanopore
@nanoporetech.com

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