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**Contribution of enrichment culture for streptococcus agalactiae screening in pregnant women**

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**Background:** *Streptococcus agalactiae* (SA) is the main bacteria responsible of neonatal invasive infections. Two syndromes have been described: the early-onset disease (EOD) and the late-onset disease (LOD). Since 2001, vaginal screening of pregnant women is recommended in France between 34 and 38 weeks of gestational age (WA) in order to give intrapartum antimicrobial prophylaxis to colonized women. Incidence of EOD has strongly decreased and is now estimated at 0.23 cases for 1,000 pregnancies in France, whereas impact of LOD remained stable. 10 to 25% of French pregnant women are colonized by SA, colonization being inconstant during pregnancy. Currently, it is recommended to perform screening by bacterial culture without enrichment. The aim of this study is to evaluate the contribution of an enrichment step to improve sensitivity of screening.

**Material/methods:** In august 2016, 200 vaginal samples collected by nylon-flocked swabs (ESWABR1, Copan) were sent to our laboratory for SA screening in pregnant women between 34 and 38 WA. Swabs were directly plated on Granada-based media for SA screening (BD™ Group B Streptococcus Differential Agar, BD Diagnostics). Transport medium was also inoculated in enrichment broth (BBL Lim broth, BD Diagnostics). Broths were incubated at 37°C, under 5% CO<sub>2</sub> atmosphere for 24 hours and then plated on Granada plates. All Granada media were incubated at 37°C under anaerobic growth conditions and read after 48h. SA was identified by orange colonies on Granada. Identifications were checked by mass spectrometry (Microflex, Bruker).

**Results:** Prior enrichment, 42 vaginal samples were positive for SA (21%). After enrichment, 51 vaginal samples were positive for SA (25,5%). Broth enrichment found 9 additional positive samples (4,5%). However, 3 samples were positive for SA prior enrichment but negative after (1,5%).

**Conclusions:** In this study, vaginal colonization rate by SA in pregnant women was relatively high, reaching 21% before enrichment and 25,5% after enrichment. Overall, 3% of samples were found additionally positive thanks to the use of enrichment broth.