ANTEPARTUM, INTRAPARTUM AND POSTPARTUM MANAGEMENT OF GROUP B STREPTOCOCCUS: GRADE TABLES

GRADE TABLE 1: PROBIOTICS VS. STANDARD CARE/PLACEBO FOR PREVENTION OF GBS

Bibliography:

Farr A, Sustr V, Kiss H, Rosicky I, Graf A, Makristathis A, et al. Oral probiotics to reduce vaginal group B streptococcal colonization in late pregnancy. Scientific reports [Internet]. 2020;10(1):19745. Available from: http://www.ncbi.nlm.nih.gov/pubmed/33184437

Olsen P, Williamson M, Traynor V, Georgiou C. The impact of oral probiotics on vaginal Group B Streptococcal colonisation rates in pregnant women: A pilot randomised control study. Women and birth : journal of the Australian College of Midwives [Internet]. 2018 Feb;31(1):31–7. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28668229

Ho M, Chang Y-Y, Chang W-C, Lin H-C, Wang M-H, Lin W-C, et al. Oral Lactobacillus rhamnosus GR-1 and Lactobacillus reuteri RC-14 to reduce Group B Streptococcus colonization in pregnant women: A randomized controlled trial. Taiwanese journal of obstetrics & gynecology [Internet]. 2016 Aug;55(4):515–8. Available from: http://www.ncbi.nlm.nih.gov/pubmed/27590374

Sharpe M, Shah V, Freire-Lizama T, Cates EC, McGrath K, David I, et al. Effectiveness of oral intake of Lactobacillus rhamnosus GR-1 and Lactobacillus reuteri RC-14 on Group B Streptococcus colonization during pregnancy: a midwifery-led double-blind randomized controlled pilot trial. The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians [Internet]. 2019 Aug 13;1–8. Available from: http://www.ncbi.nlm.nih.gov/pubmed/31362572

Martín V, Cárdenas N, Ocaña S, Marín M, Arroyo R, Beltrán D, et al. Rectal and Vaginal Eradication of Streptococcus agalactiae (GBS) in Pregnant Women by Using Lactobacillus salivarius CECT 9145, A Target-specific Probiotic Strain. Nutrients [Internet]. 2019 Apr 10;11(4). Available from: http://www.ncbi.nlm.nih.gov/pubmed/30974819

Certainty assessment							Summary of findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With standard care/placebo	With oral probiotics		Risk with standard care/placebo	Risk difference with oral probiotics
Vaginal GBS colonization											
378 (5 RCTs)	serious[a]	not serious	not serious	not serious	none	⨁⨁⨁◯ Moderate	98/179 (54.7%)	81/199 (40.7%)	**RR 0.71** (0.51 to 1.00)	547 per 1,000	**159 fewer per 1,000** (from 268 fewer to 0 fewer)
Adverse events											
268 (4 RCTs)	serious[a]	not serious	not serious	not serious	none	⨁⨁⨁◯ Moderate	0/125 (0.0%)	0/143 (0.0%)	not estimable	0 per 1,000	

CI: confidence interval; **RR:** risk ratio

Explanations

a. There was insufficient information on randomization in one study and insufficient information on allocation concealment in two of the studies.

GRADE TABLE 2: DIAGNOSTIC ACCURACY OF VAGINAL-RECTAL CULTURE SCREENING

Bibliography:

Virranniemi M, Raudaskoski T, Haapsamo M, Kauppila J, Renko M, Peltola J, et al. The effect of screening-to-labor interval on the sensitivity of late-pregnancy culture in the prediction of group B streptococcus colonization at labor: A prospective multicenter cohort study. Acta obstetricia et gynecologica Scandinavica [Internet]. 2019;98(4):494–9. Available from: http://www.ncbi.nlm.nih.gov/pubmed/30578547

Khalil MR, Uldbjerg N, Thorsen PB, Møller JK. Intrapartum PCR assay versus antepartum culture for assessment of vaginal carriage of group B streptococci in a Danish cohort at birth. PloS one [Internet]. 2017;12(7):e0180262. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28678829

Young BC, Dodge LE, Gupta M, Rhee JS, Hacker MR. Evaluation of a rapid, real-time intrapartum group B streptococcus assay. American journal of obstetrics and gynecology [Internet]. 2011 Oct;205(4):372.e1-6. Available from: http://www.ncbi.nlm.nih.gov/pubmed/21864820

Zietek M, Jaroszewicz-Trzaska J, Szczuko M, Mantiuk R, Celewicz Z. Intrapartum PCR assay is a fast and efficient screening method for Group B Streptococcus detection in pregnancy. Ginekologia polska [Internet]. 91(9):549–53. Available from: http://www.ncbi.nlm.nih.gov/pubmed/33030736

Kunze M, Zumstein K, Markfeld-Erol F, Elling R, Lander F, Prömpeler H, et al. Comparison of pre- and intrapartum screening of group B streptococci and adherence to screening guidelines: a cohort study. European journal of pediatrics [Internet]. 2015 Jun;174(6):827–35. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25922140

Szymusik I, Kosinska-Kaczynska K, Krolik A, Skurnowicz M, Pietrzak B, Wielgos M. The usefulness of the universal culture-based screening and the efficacy of intrapartum prophylaxis of group B Streptococcus infection. The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians [Internet]. 2014 Jun;27(9):968–70. Available from: http://www.ncbi.nlm.nih.gov/pubmed/24047083

de Tejada BM, Pfister RE, Renzi G, François P, Irion O, Boulvain M, et al. Intrapartum Group B streptococcus detection by rapid polymerase chain reaction assay for the prevention of neonatal sepsis. Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases [Internet]. 2011 Dec;17(12):1786–91. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20860701

el Helali N, Habibi F, Azria E, Giovangrandi Y, Autret F, Durand-Zaleski I, et al. Point-of-Care Intrapartum Group B Streptococcus Molecular Screening: Effectiveness and Costs. Obstetrics and gynecology [Internet]. 2019;133(2):276–81. Available from: http://www.ncbi.nlm.nih.gov/pubmed/30633130

Yancey MK, Schuchat A, Brown LK, Ventura VL, Markenson GR. The accuracy of late antenatal screening cultures in predicting genital group B streptococcal colonization at delivery. Obstetrics and gynecology [Internet]. 1996 Nov;88(5):811–5. Available from: http://www.ncbi.nlm.nih.gov/pubmed/8885919

Khalil MR, Uldbjerg N, Thorsen PB, Møller JK. Risk-based approach versus culture-based screening for identification of group B streptococci among women in labor. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics [Internet]. 2019 Feb;144(2):187–91. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28645088

Towers C v, Rumney PJ, Asrat T, Preslicka C, Ghamsary MG, Nageotte MP. The accuracy of late third-trimester antenatal screening for group B streptococcus in predicting colonization at delivery. American journal of perinatology [Internet]. 2010 Nov;27(10):785–90. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20458663
Lin F-YC, Weisman LE, Azimi P, Young AE, Chang K, Cielo M, et al. Assessment of intrapartum antibiotic prophylaxis for the prevention of early-onset group B Streptococcal disease. The Pediatric infectious disease journal [Internet]. 2011 Sep;30(9):759–63. Available from: http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=ovftl&NEWS=N&AN=00006454-201109000-00009

Sensitivity	0.77 (95% CI: 0.44 to 1.00)
Specificity	0.90 (95% CI: 0.73 to 1.00)

Outcome	№ of studies (№ of patients)	Study design	Factors that may decrease certainty of evidence					Effect per 1,000 patients tested	Test accuracy CoE
			Risk of bias	Indirectness	Inconsistency	Imprecision	Publication bias	pre-test probability of19%	
True positives (patients with GBS)	12 studies 15610 patients	cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	serious[a]	none	146 (84 to 190)	⨁⨁⨁◯ Moderate
False negatives (patients incorrectly classified as not having GBS)								44 (0 to 106)	
True negatives (patients without GBS)	12 studies 15610 patients	cross-sectional (cohort type accuracy study)	not serious	not serious	not serious	not serious	none	729 (591 to 810)	⨁⨁⨁⨁ High
False positives (patients incorrectly classified as having GBS)								81 (0 to 219)	

Explanations

a. There is a large confidence interval for this estimate of effect.

GRADE TABLE 3: SELF-SAMPLING COMPARED TO SAMPLING BY HEALTHCARE PROVIDER

Bibliography:

Hicks P, Diaz-Perez MJ. Patient self-collection of group B streptococcal specimens during pregnancy. Journal of the American Board of Family Medicine : JABFM [Internet]. 2009;22(2):136–40. Available from: http://www.jabfm.org/cgi/content/abstract/22/2/136

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With healthcare provider swabbing	With Self-sampling with vaginal-rectal GBS swabs	Relative effect (95% CI)	Risk with healthcare provider swabbing	Risk difference with Self-sampling with vaginal-rectal GBS swabs
GBS positive results											
800 (1 observational study)	not serious	not serious	not serious	serious[a]	none	⨁◯◯◯ Very low	54/507 (10.7%)	39/293 (13.3%)	**RR 1.25** (0.85 to 1.84)	107 per 1,000	**27 more per 1,000** (from 16 fewer to 89 more)

CI: confidence interval; **RR:** risk ratio

Explanations

a. There are a small number of events as well as a wide confidence interval.

GRADE TABLE 4: TIMING OF VAGINAL-RECTAL CULTURE SCREENING FOR GBS

Bibliography:

Valkenburg-van den Berg AW, Houtman-Roelofsen RL, Oostvogel PM, Dekker FW, Dörr PJ, Sprij AJ. Timing of group B streptococcus screening in pregnancy: a systematic review. Gynecologic and obstetric investigation [Internet]. 2010;69(3):174–83. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20016190

Certainty assessment							Summary of findings
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Narrative summary of results
EOGBSD							
25664 (one systematic review; 9 included studies)	serious[a]	not serious	not serious	not serious	none	⊕⊕⊕◯ Moderate	An antepartum culture is most accurate in predicting GBS status at birth when it is performed at a later gestational age, allowing for a shorter interval between screening and birth. An interval of greater than six weeks between antepartum culture and birth likely reduces the probability of an accurate result.

Explanations

a. Appraisal of the included systematic review was performed using A MeaSurement Tool to Assess Systematic Reviews (AMSTAR 2). Though validity of the included studies were discussed, authors did not provide description of the techniques used to assess risk of bias across studies.

GRADE TABLE 5: INTRAPARTUM ANTIBIOTIC PROPHYLAXIS COMPARED TO NO INTRAPARTUM ANTIBIOTIC PROPHYLAXIS

Bibliography:

Li S, Huang J, Chen Z, Guo D, Yao Z, Ye X. Antibiotic Prevention for Maternal Group B Streptococcal Colonization on Neonatal GBS-Related Adverse Outcomes: A Meta-Analysis. Frontiers in microbiology [Internet]. 2017;8:374. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28367139

Ohlsson A, Shah VS. Intrapartum antibiotics for known maternal Group B streptococcal colonization. The Cochrane database of systematic reviews [Internet]. 2014 Jan 8 [cited 2014 Sep 18];6(3):CD007467. Available from: http://www.ncbi.nlm.nih.gov/pubmed/24915629

Boyer KM, Gotoff SP. Prevention of early-onset neonatal group B streptococcal disease with selective intrapartum chemoprophylaxis. The New England journal of medicine [Internet]. 1986 Jun 26;314(26):1665–9. Available from: http://www.ncbi.nlm.nih.gov/pubmed/3520319

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With no IAP for GBS positive birthing parents	With IAP	Relative effect (95% CI)	Risk with no IAP for GBS positive birthing parents	Risk difference with IAP
Neonatal mortality from EOGBS											
164 (1 RCT)	serious[a]	not serious	serious[b]	serious[c]	none	⨁◯◯◯ Very low	1/79 (1.3%)	0/85 (0.0%)	**RR 0.31** (0.01 to 7.50)	13 per 1,000	**9 fewer per 1,000** (from 13 fewer to 82 more)
Neonatal mortality from infections caused by bacteria other than GBS											
164 (1 RCT)	serious[a]	not serious	serious[b]	serious[c]	none	⨁◯◯◯ Very low	1/79 (1.3%)	0/85 (0.0%)	**RR 0.31** (0.01 to 7.50)	13 per 1,000	**9 fewer per 1,000** (from 13 fewer to 82 more)
EOGBS											
1014 (6 RCTs)	serious[d]	not serious	not serious	not serious	none	⨁⨁⨁◯ Moderate	38/502 (7.6%)	10/512 (2.0%)	**RR 0.28** (0.15 to 0.55)	76 per 1,000	**55 fewer per 1,000** (from 64 fewer to 34 fewer)

Certainty assessment							Summary of findings				
Infection from bacteria other than GBS											
592 (6 RCTs)	serious[e]	not serious	not serious	not serious	none	⨁⨁⨁◯ Moderate	31/216 (14.4%)	19/376 (5.1%)	**RR 0.35** (0.20 to 0.62)	144 per 1,000	**93 fewer per 1,000** (from 115 fewer to 55 fewer)
Neonatal sepsis due to bacterial organisms other than GBS											
289 (2 RCTs)	serious[f]	not serious	serious[g]	serious[c]	none	⨁◯◯◯ Very low	1/144 (0.7%)	1/145 (0.7%)	**RR 1.00** (0.10 to 10.04)	7 per 1,000	**0 fewer per 1,000** (from 6 fewer to 63 more)

CI: confidence interval; **RR:** risk ratio

Explanations

a. This study was identified by the Cochrane review (Ohlsson 2014) as being at high risk of bias due to issues with allocation concealment, blinding, incomplete outcome data, selective reporting and other bias. This was study was rated at a quality index of 3 on the Jadad scale by the other systematic review (Li 2017). According to the Jadad scale studies with >/= 3 points are considered high-quality studies. Due to these conflicting interpretations, we assessed the study and agreed that there were significant methodological issues introducing risk of bias.

b. There were concerns about indirectness, as the study did not indicate at what point the participants tested positive for GBS in their pregnancies. The antibiotic regime in this study included four doses of intramuscular ampicillin (5 mg per kilogram of body weight per dose) at 12-hour intervals until the initial culture results were available for infants whose birthing parent received ampicillin. For the outcome of mortality, this additional treatment for infants confounds the results.

c. There were concerns about imprecision due to the small sample size, small number of events and the wide confidence interval, that crossed the null.

d. All the included studies for this outcome were rated at 1-2 on the Jadad scale (a rating of three or above is considered high-quality) by the systematic reviewers (Li 2017) except one (Boyer 1986) which was rated as being at risk of bias by our team.

e. All the included studies for this outcome were rated at 1-2 on the Jadad scale by the systematic reviewers (Li 2017). A rating of three or above is considered high-quality.

f. These studies were rated as having serious risk of bias as the Cochrane review (Ohlsson 2014) identified high risk of bias, or unclear risk of bias in multiple methodological areas across the studies.

g. There were concerns about indirectness, as one study (Boyer 1986) did not indicate at what point the participants tested positive for GBS in their pregnancies. The antibiotic regime in this study included four doses of intramuscular ampicillin (5 mg per kilogram of body weight per dose) at 12-hour intervals until the initial culture results were available for infants whose birthing parent received ampicillin. For the outcome of mortality, this additional treatment for infants confounds the results.

GRADE TABLE 6: CULTURE SCREENING APPROACH TO IAP DELIVERY COMPARED TO NO POLICY

Bibliography:

Hasperhoven GF, Al-Nasiry S, Bekker V, Villamor E, Kramer B. Universal screening versus risk-based protocols for antibiotic prophylaxis during childbirth to prevent early-onset group B streptococcal disease: a systematic review and meta-analysis. BJOG : an international journal of obstetrics and gynaecology [Internet]. 2020;127(6):680–91. Available from: http://www.ncbi.nlm.nih.gov/pubmed/31913562

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With no formal screening policy	With Universal culture screening	Relative effect (95% CI)	Risk with no formal screening policy	Risk difference with Universal culture screening
EOGBSD											
3172204 (4 observational studies)	serious[a]	not serious	not serious	not serious	none	⨁◯◯◯ Very low	788/1565481 (0.1%)	545/1606723 (0.0%)	**RR 0.31** (0.11 to 0.84)	1 per 1,000	**0 fewer per 1,000** (from 0 fewer to 0 fewer)

CI: confidence interval; **RR:** risk ratio

Explanations

a. Systematic review authors rated these studies as being at risk of bias using the ROBINS-I tool.

GRADE TABLE 7: RISK FACTOR APPROACH TO IAP DELIVERY COMPARED TO NO POLICY

Bibliography:

Hasperhoven GF, Al-Nasiry S, Bekker V, Villamor E, Kramer B. Universal screening versus risk-based protocols for antibiotic prophylaxis during childbirth to prevent early-onset group B streptococcal disease: a systematic review and meta-analysis. BJOG : an international journal of obstetrics and gynaecology [Internet]. 2020;127(6):680–91. Available from: http://www.ncbi.nlm.nih.gov/pubmed/31913562

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With no policy	With Risk-factor approach	Relative effect (95% CI)	Risk with no policy	Risk difference with Risk-factor approach
EOGBSD											
7506263 (7 observational studies)	serious[a]	not serious	not serious	not serious	none	⨁◯◯◯ Very low	1022/3778651 (0.0%)	1182/3727612 (0.0%)	**RR 0.84** (0.59 to 1.20)	0 per 1,000	**0 fewer per 1,000** (from 0 fewer to 0 fewer)

CI: confidence interval; **RR:** risk ratio

Explanations

a. Systematic review authors rated these as studies at risk of bias using the ROBINS-I tool.

GRADE TABLE 8: CULTURE SCREENING AND RISK FACTORS APPROACH TO IAP DELIVERY COMPARED TO NO POLICY

Bibliography:

Renner RM, Renner A, Schmid S, Hoesli I, Nars P, Holzgreve W, et al. Efficacy of a strategy to prevent neonatal early-onset group B streptococcal (GBS) sepsis. Journal of perinatal medicine [Internet]. 2006;34(1):32–8. Available from: http://www.ncbi.nlm.nih.gov/pubmed/16489884

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With no formal policy	With Screening plus risk-factors approach	Relative effect (95% CI)	Risk with no formal policy	Risk difference with Screening plus risk-factors approach
GBS sepsis											
25511 (1 observational study)	not serious	not serious	not serious	serious[a]	none	⨁◯◯◯ Very low	16/16126 (0.1%)	5/9385 (0.1%)	**RR 0.54** (0.20 to 1.47)	1 per 1,000	**0 fewer per 1,000** (from 1 fewer to 0 fewer)

CI: confidence interval; **RR:** risk ratio

Explanations

a. There were concerns about imprecision as there were very few events, and the confidence interval crosses the null.

GRADE TABLE 9: CULTURE SCREENING APPROACH TO IAP DELIVERY COMPARED TO RISK FACTOR APPROACH TO IAP DELIVERY

Bibliography:

Hasperhoven GF, Al-Nasiry S, Bekker V, Villamor E, Kramer B. Universal screening versus risk-based protocols for antibiotic prophylaxis during childbirth to prevent early-onset group B streptococcal disease: a systematic review and meta-analysis. BJOG : an international journal of obstetrics and gynaecology [Internet]. 2020;127(6):680–91. Available from: http://www.ncbi.nlm.nih.gov/pubmed/31913562

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With risk-factor based approach	With Universal screening	Relative effect (95% CI)	Risk with risk-factor based approach	Risk difference with Universal screening
EOGBSD											
892387 (9 observational studies)	serious[a]	not serious	not serious	not serious	none	⨁◯◯◯ Very low	339/433523 (0.1%)	155/458864 (0.0%)	**RR 0.43** (0.32 to 0.58)	1 per 1,000	**0 fewer per 1,000** (from 1 fewer to 0 fewer)

CI: confidence interval; **RR:** risk ratio

Explanations

a. Systematic review authors rated these studies at risk of bias using the ROBINS-I tool.

GRADE TABLE 10: INDUCTION COMPARED TO EXPECTANT MANAGEMENT FOR CLIENTS WHO EXPERIENCE PROM

Bibliography:

Hannah ME, Ohlsson A, Wang EE, Matlow A, Foster GA, Willan AR, et al. Maternal colonization with group B Streptococcus and prelabor rupture of membranes at term: the role of induction of labor. TermPROM Study Group. American journal of obstetrics and gynecology [Internet]. 1997 Oct;177(4):780–5. Available from: http://www.ncbi.nlm.nih.gov/pubmed/9369819

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With EM for GBS positive people with PROM	With Induction	Relative effect (95% CI)	Risk with EM for GBS positive people with PROM	Risk difference with Induction
Neonatal infection											
270 (1 RCT)	serious[a]	not serious	serious[b]	serious[c]	none	⨁◯◯◯ Very low	12/149 (8.1%)	3/121 (2.5%)	**RR 0.31** (0.09 to 1.07)	81 per 1,000	**56 fewer per 1,000** (from 73 fewer to 6 more)

CI: confidence interval; **RR:** risk ratio

Explanations

a. This study was conducted in 1996 and has a number of methodological limitations

b. When this study was conducted there was no standardized approach to screening for GBS or delivery of IAP, suggesting that estimates of neonatal infection in this study are likely overestimated. Decisions over when to treat birthing parents with IAP were left to the individual judgement of the clinicians. Furthermore, the results of GBS culture screening were not available at birth for most birthing parents, which means that clinicians were not basing treatment decisions on known GBS status.

c. The number of participants in the trial who had GBS and PROM was quite low; larger sample sizes would be required to have confidence in these estimates.

GRADE TABLE 11: <4 HOURS IAP COMPARED TO > 4 HOURS OF IAP FOR MANAGEMENT OF GBS

Bibliography:

Fairlie T, Zell ER, Schrag S. Effectiveness of intrapartum antibiotic prophylaxis for prevention of early-onset group B streptococcal disease. Obstetrics and gynecology [Internet]. 2013 Mar;121(3):570–7. Available from: http://www.ncbi.nlm.nih.gov/pubmed/23635620

Kojima K, Tanaka R, Nakajima K, Kurihara N, Oba MS, Yamashita Y, et al. Predicting outcomes of neonates born to GBS-positive women who received inadequate intrapartum antimicrobial prophylaxis. The Turkish journal of pediatrics [Internet]. 56(3):238–42. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25341594

Turrentine MA, Greisinger AJ, Brown KS, Wehmanen OA, Mouzoon ME. Duration of intrapartum antibiotics for group B streptococcus on the diagnosis of clinical neonatal sepsis. Infectious diseases in obstetrics and gynecology [Internet]. 2013;2013:525878. Available from: http://www.ncbi.nlm.nih.gov/pubmed/23606801

Certainty assessment							Summary of findings				
							Study event rates (%)			Anticipated absolute effects	
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	With IAP > 4 hours	With Duration of IAP < 4 hours	Relative effect (95% CI)	Risk with IAP > 4 hours	Risk difference with Duration of IAP < 4 hours
EOGBSD											
6802 (3 observational studies)	not serious	not serious	not serious	not serious	none	⨁⨁◯◯ Low	11/4891 (0.2%)	50/1911 (2.6%)	**RR 6.68** (3.68 to 12.79)	2 per 1,000	**13 more per 1,000** (from 6 more to 27 more)
Neonatal clinical sepsis											
4782 (1 observational study)	not serious	not serious	not serious	not serious	none	⨁⨁◯◯ Low	15/3633 (0.4%)	13/1149 (1.1%)	**RR 2.74** (1.31 to 5.74)	4 per 1,000	**7 more per 1,000** (from 1 more to 20 more)

CI: confidence interval; **RR:** risk ratio

GRADE TABLE 12: EXPECTANT MANAGEMENT COMPARED TO LABORATORY TESTING FOR WELL-APPEARING NEWBORNS AT RISK FOR EOGBSD

Bibliography:

Berardi A, Spada C, Reggiani MLB, Creti R, Baroni L, Capretti MG, et al. Group B Streptococcus early-onset disease and observation of well-appearing newborns. PloS one [Internet]. 2019;14(3):e0212784. Available from: http://www.ncbi.nlm.nih.gov/pubmed/30893310

Cantoni L, Ronfani L, da Riol R, Demarini S, Perinatal Study Group of the Region Friuli-Venezia Giulia. Physical examination instead of laboratory tests for most infants born to mothers colonized with group B Streptococcus: support for the Centers for Disease Control and Prevention's 2010 recommendations. The Journal of pediatrics [Internet]. 2013 Aug;163(2):568–73. Available from: http://www.ncbi.nlm.nih.gov/pubmed/23477995

Certainty assessment							Summary of findings				
Participants (studies) Follow-up	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Overall certainty of evidence	Study event rates (%)		Relative effect (95% CI)	Anticipated absolute effects	
							With Laboratory testing for at-risk neonates	With Serial physical examination		Risk with Laboratory testing for at-risk neonates	Risk difference with Serial physical examination
EOS											
532154 (1 observational study)	not serious	not serious	not serious	serious[a]	none	⨁◯◯◯ Very low	60/266646 (0.0%)	48/265508 (0.0%)	**RR 0.80** (0.55 to 1.17)	0 per 1,000	**0 fewer per 1,000** (from 0 fewer to 0 fewer)
Newborn antibiotic use											
1589 (1 observational study)	serious[b]	not serious	not serious	not serious	none	⨁◯◯◯ Very low	23/825 (2.8%)	7/764 (0.9%)	**RR 0.33** (0.14 to 0.76)	28 per 1,000	**19 fewer per 1,000** (from 24 fewer to 7 fewer)

CI: confidence interval; **RR:** risk ratio

Explanations

a. There were concerns about imprecision as there were few events, and the confidence interval crosses the null.
b. There were concerns about risk of bias as authors did not appear to control for confounding factors.