# Background

Antibiotics are administered in labour for Group B Streptococcus (GBS) prophylaxis, chorioamnionitis and intrapartum fever. Hospital policies direct investigations and prescribing for each indication (Table 1).

#### Aims

- 1. Determine rate of intravenous (IV) antibiotic prescribing in women in labour with singleton pregnancy at term
- Determine indications for antibiotics in labour at term
- 3. Determine if management follows hospital policies

## Methods

683 women who laboured atterm (≥37/40 gestation) with singleton pregnancy and delivered between April 1 and June 30 2020 in our tertiary hospital were included. Medication charts and notes were reviewed. Detailed review occurred for non-GBS indications.

#### Results

85% (581) of women did not receive antibiotics in labour, 13% (87) received GBS prophylaxis antibiotics and 2% (15) received antibiotics for a non-GBS indication. Of the women receiving non-GBS antibiotics 87% (13) received them for a fever or suspected chorioamnionitis and 13% (2 women) for prolonged rupture of membranes (PROM) without meeting fever in labour criteria. Maternal age and parity were similar between groups. Rupture of membrane duration was longest in the non-GBS antibiotics group (Table 2). Percentage of births by mode of delivery was similar between the no antibiotic and GBS prophylaxis groups with a high vaginal birth rate and a low caesarean section rate.

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This trend was inverse in the non-GBS antibiotics group (Figure 1). Of the 13 women indicated for triple IV antibiotics, 8 received triple IV antibiotics, 3 received ampicillin and gentamicin IV but oral metronidazole, 2 received only two antibiotics IV. The women with PROM received ampicillin or gentamicin and metronidazole.

Of the febrile patients, 3 commenced the sepsis pathway, 11 had maternal lactates collected and 6 were elevated. Twelve women had blood cultures and 1 woman had a urine culture, all were negative. Of 12 placental swabs, 3 were GBS positive in women negative at screening, 1 grew E.coli and GBS in GBS positive woman and 1 grew Streptococcus Anginosus. Placental histopathology demonstrated inflammatory change in all 12 samples and some degree of chorioamnionitis in 10.

One woman was readmitted with endometritis and treated with IV antibiotics. One represented with a caesarean wound infection, treated with oral antibiotics as an outpatient. One neonate had suspected GBS sepsis and received 7 days of IV antibiotics over 2 nursery admissions. Another neonate received 36 hours of IV antibiotics for sepsis risk.

Table 1: Hospital Policies for Antibiotics in Labour

Indication	Antibiotics	Investigations	
GBS	Benzyl Penicillin 3g, then 1.8g q4 hr	N/A	
Chori o a mnionit	Ampicillin 2g IV q6hr	Blood cultures if febrile	
is	Metronidazole 500mg IV q12hr	HVS MCS	
	Gentamicin 5-7mg/kg pre-pregnancy	Urine MCS	
	weight IV stat		
Intrapartum	Ampicillin 2g IV q6hr	Sepsis pathway	
fever	Metronidazole 500mg IV q12hr	FBC, EUC, CRP, lactate	
(1 ≥38ºC or	Gentamicin 5mg/kg pre-pregnancy	Blood cultures, LVS & Urine	
2 >37.5ºC)	weight IV stat	MCS, consider other	
		investigations	



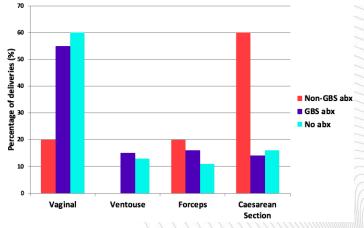




Table 2: Maternal Characteristics by Antibiotic Group

	Non-GBS Antibiotics n=15	GBS Antibiotics n=87	No antibiotics n=581
Age (median, range) years	33 (19-39)	33 (23-42)	34 (19-47)
Parity (median, range)	0 (0-1)	0 (0-3)	0 (0-5)
ROM duration	13.97	10.2	6.7
(median, range) hours	(3.87-46.80)	(0.45-45.08)	(0-179.2)

Figure 1: Mode of Delivery by Antibiotic Group



## Conclusion

This audit demonstrates that women infrequently require antibiotics in labour for non-GBS indications. The number of sepsis related complications in these women or their neonate is similarly low.

Management of antibiotics in labour can be improved by ensuring administration of triple IV therapy and completion of the sepsis pathway and investigations. Education regarding hospital policies for antibiotics in labour could improve compliance and potentially increase pathology yield to target antibiotic therapy and reduce complications.

