

High cesarean section rates are not always related to high post-partum hemorrhage rates

Siaulys MM, Robson M; Browne I, Torloni MR, Rizzo MC, Haelvoet G; Cordioli E. soap2023.12c03ff

Background

- Hospital e Maternidade Santa Joana, Sao Paulo, Brazil
Tertiary Maternity Hospital, 10,000 deliveries/year and 87% CS rate
- National Maternity Hospital, Dublin, Ireland
Tertiary Maternity Hospital, 7,500 deliveries/year and 31% CS rate
- Each hospital has a different philosophy of care
- Both hospitals use the Ten Group Classification System (TGCS) to prospectively categorize all births and to analyze CS rates and maternal and neonatal outcomes, including PPH, on an “intention to treat” basis

Study Objective

- To assess the rates of CS and PPH using the TGCS in a setting with a very high overall CS rate compared with a setting with a lower overall CS rate

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	HMSJ- Brazil 					NMH- Ireland 				
	N of CS / Total N women	Group size	CS rate in group	PPH	Transfusion	N of CS / Total N women	Group size	CS rate in group	PPH	Transfusion
Totals (all 10 groups)	20623/23564		87.5%	866 (3.7%)	354 (1.5%)	2411/7694		31.3%	309 (4.0%)	97 (1.3%)
1. Nulliparas, singleton cephalic ≥37 wks, in spontaneous labor	1929/2991	12.7%	64.5%	129 (4.3%)	34 (1.1%)	137/1322	17.2%	10.4%	52 (3.9%)	27 (2.0%)
2. Nullipara, singleton cephalic ≥37 wks, labor induced or prelabor CS	7587/8203	34.8%	92.5%	258 (3.1%)	84 (1.0%)	645/1527	19.8%	42.2%	101 (6.6%)	31 (2.0%)
3. Multiparas no previous CS, singleton cephalic ≥37 wks, in spontaneous labor	163/637	2.7%	25.6%	35 (5.5%)	8 (1.3%)	24/1700	22.1%	1.4%	34 (2.0%)	7 (0.4%)
4. Multiparas no previous CS, singleton cephalic ≥37 wks, labor induced or prelabor CS	647/889	3.8%	72.8%	38 (4.3%)	8 (0.9%)	179/1281	16.6%	14.0%	36 (2.8%)	4 (0.3%)
5. Multiparas with ≥ 1 previous CS, singleton cephalic ≥37 wks	6671/6961	29.5%	95.8%	194 (2.8%)	76 (1.1%)	858/1041	13.5%	82.4%	28 (2.7%)	9 (0.9%)
6. All nulliparas with a single breech fetus	867/868	3.7%	99.9%	33 (3.8%)	11 (1.3%)	170/181	2.4%	93.9%	5 (2.8%)	2 (1.1%)
7. All multiparas with a single breech fetus, including those with previous CS	403/405	1.7%	99.5%	13 (3.2%)	7 (1.7%)	110/120	1.6%	91.7%	9 (7.5%)	2 (1.7%)
8. All women with >1 fetus, including those with previous CS	568/575	2.4%	98.9%	73 (12.7%)	40 (7.0%)	105/156	2.0%	67.3%	19 (12.2%)	5 (3.2%)
9. All women with a single fetus in transverse/oblique lie, including those with previous CS	122/122	0.5%	100.0%	22 (18.0%)	10 (8.2%)	40/40	0.5%	100.0%	2 (5.0%)	0
10. All women with singleton cephalic < 37 wks, including those with previous CS	1666/1913	8.1%	87.1	71 (3.7%)	76 (4.0%)	143/326	4.2%	43.9%	23 (7.1%)	10 (3.1%)

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Groups 1 & 2 combined (Nulliparas, singleton cephalic ≥37 wks)	9516/11194	47.5%	85.0%	387 (3.5%)	118 (1.1%)	782/2849	37.0%	27.4%	153 (5.4%)	58 (2.0%)

In the cohort of nulliparous women at ≥ 37 weeks gestation and a single cephalic pregnancy (Groups 1 and 2 combined), PPH rates and blood transfusion rates were no different and possibly lower at the HMSJ with a CS rate of 85% as compared to the NMH with a CS rate of 27%

In summary

- Settings with high CS rates (overall and in specific TGCS groups) do not necessarily have higher PPH rates than settings with lower CS rates
- The TGCS analyzed on an intention to treat basis can provide a better understanding of CS rates and clinical outcomes, including PPH and transfusion
- This information can be useful for hospital managers and clinicians to optimize obstetric care