

Incidence of short cervix after Universal cervical length screening in a tertiary level centre

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Background:

- Preterm birth (PTB) is defined as birth before 37 weeks gestation
- It happens in only 8% of birth in Canada, but accounts for 75% of all newborn deaths & 80% newborn illnesses
- 2/3 of all PTBs are the result of spontaneous labour, with or without PPRM
- Women with a history of PTB are considered high-risk
- There is a 32% chance of recurrence
- Key predictors of PTB : obstetrical history and shortening cervical length (CL) as measured by transvaginal ultrasound (TVUS)
- Prophylactic use of vaginal progesterone in women with short CL reduces PTB rate by 45%

Objectives:

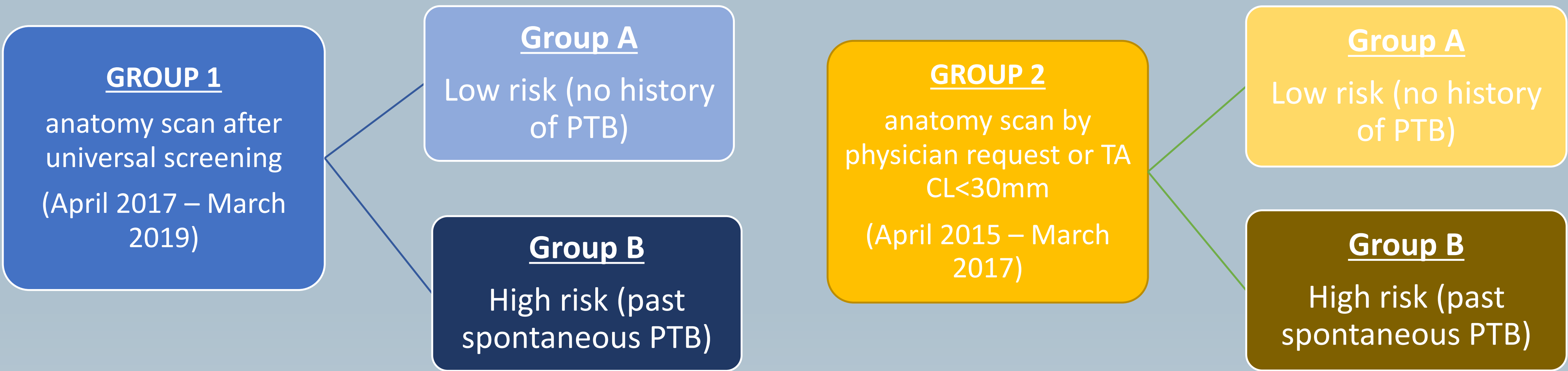
To evaluate the our experience with universal cervical CL screening by transvaginal ultrasound by determining short cervix incidence at mid-trimester anatomy scans in our institution

Results:

	Group 1 (n=1423)	Group 2 (n=1296)	p value
Gestational age at anatomy scan, weeks*	19.52 ± 0.6	19.54 ± 0.7	0.59
CL measurement during anatomy scan, n (%)	1389 (98.1)	918 (77.0)	<0.005
CL at anatomy (mm)*	39.01 ± 6	39.36 ± 6	0.023
Transvaginal US done, n (%)	1257 (88.3)	285 (22.0)	<0.005
Short cervix TV (CL <25 mm), n (%)	35 (2.4)	18 (1.5)	<0.005
Very short cervix (CL< 15 mm), n (%)	6 (0.4)	7(0.5)	0.65
Follow up for CL needed, n (%)	313 (22.3)	245(20.9)	0.37

Methods:

- Retrospective cohort study
- Inclusion criteria:
 - Singleton pregnancies with midterm anatomy scans and delivered at SHSC (April 2015 – March 2019)
 - Subsequent CL measurements recorded up to 28+0 GA
- Excluded cases: women who underwent termination of pregnancy, did not deliver at SHCS or had intrauterine fetal demise



Discussion:

- To date, 2719 pregnancies have been analyzed and subdivided
 - 1423 women (52.3%) in Group 1
 - 1296 women (47.6%) in Group 2
- No differences were found in mean CL or gestational age at time of anatomy scan
- Women in Group 1 were significantly more likely to have TVUS cervical assessment
- Short CL incidence after introduction of universal screening is more similar to literature values
- There was a significant increase in short cervix detection after universal screening

Future Directions:

- Assessment of US CL measurement for accuracy based on FMF and CLEAR guidelines
- Secondary outcomes will be analyzed such as:
 - Rate of interventions (cerclage, progesterone)
 - Rate of PTB at 37, 34 and 32 weeks
 - Acceptability of the transvaginal US after 2017
- We believe the universal screening will impact the incidence of preterm birth as well as intervention rate

Abbreviations:

CL – Cervical length; US – Ultrasound; TV – transvaginal

- Data is presented as mean ± standard deviation

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References:

1. Liu L, Oza S, Hogan D, Chu Y, Perin J, Zhu J, et al. Global, regional, and national causes of under-5 mortality in 2000-15: an updated systematic analysis with implications for the Sustainable Development Goals. Lancet, 2016; 388 (10063): 3027-35.
2. Lackritz EM, Wilson CB, Guttmacher AE, Howse JL, Engmann CM, Rubens CE, Mason EM et al. Preterm Birth Research Priority Setting Group. A solution pathway for preterm birth: Accelerating a priority research agenda. Lancet Glob Health. 2013;1(6): e328-30
3. Laughon SK, Albert PS, Leishner K, Mendola P. The NICHD Consecutive Pregnancies Study: recurrent preterm delivery by subtype. Am J Obstet Gynecol 2014;210:131. e1–131.e8.
4. Iams JD, Goldenberg RL, Meis PJ, Mercer BM, Moawad A, Das A, et al. The length of the cervix and the risk of spontaneous premature delivery. National Institute of Child Health and Human Development Maternal Fetal Medicine Unit Network. N Engl J Med 1996;334:567e72.
5. Taipale P, Hillesmaa V. Sonographic measurement of uterine cervix at 18-22 weeks' gestation and the risk of preterm delivery. Obstet Gynecol 1998;92:902e7.
6. Romero R, Conde-Agudelo A, Da Fonseca E, O'Brien JM, Cetingoz E, Creasy GW, Hassan SS, Nicolaides KH. Vaginal progesterone for preventing preterm birth and adverse perinatal outcomes in singleton gestations with a short cervix: a meta-analysis of individual patient data. Am J Obstet Gynecol. 2018 Feb;218(2):161-180. doi: 10.1016/j.ajog.2017.11.576.



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