CUA 2023 Annual Meeting Abstracts – Podium Session 5: Pediatrics, Other

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POD 5.1

Interim results of a randomized controlled trial of caudal vs. local anesthesia in hypospadias – the CLASH study

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Introduction: We aimed to compare caudal anesthesia's impact on postoperative complications to a dorsal penile block (DPB).

Methods: A superiority randomized controlled trial (RCT) was conducted, including boys 6–48 months of age at surgery diagnosed with hypospadias. Patients who had undergone previous hypospadias surgery or could not be administered caudal or dorsal penile block were excluded. Block randomization was employed with a 1:1 allocation ratio and a standardized anesthesia protocol. The primary outcome was the formation of UCF or glans dehiscence captured at 6–8 weeks, six months, and 12 months postoperatively. Secondary outcomes included postoperative pain and analgesic use in the hospital and at home using validated pain scales (FLACC, CHEOPS, PPPM, TPPPS), operative time (OpT), temperature, and induction time.

Results: We enrolled 120 patients and 14 withdrew. Of the 100 patients who completed followup, 50 had caudal and 50 DPB (Table 1). The overall complication rate was 10%, with two fistulae and eight GD. There were eight (16%) complications in the caudal group vs. two (4%) in the DPB (p=0.05). The mean OpT was 143 minutes in the caudal vs. 122 minutes in the DPB group (p=0.04). Induction time was 23 minutes vs. 16.43 (p<0.01). There was no difference in pain scales or analgesic use in the hospital or during the first 24 hours postoperatively.

Conclusions: The preliminary results of this RCT suggest that caudal blocks are associated with increased complication rates, increased OpT, and induction time. Pain and analgesic use were comparable across groups, suggesting DPB is as effective as a caudal block for pain management intraoperatively and in the first 24 hours postoperatively.

Acknowledgements: CUA Dragons Den. This abstract is also being presented at the ESPU.

POD 5.1. Table 1. Baseline patient characteristics

Characteristic	Caudal n = 50 (%)	Dorsal Penile Block n = 50 (%)
Mean age at surgery (months)	18.85±8.8	17.98±5.9
Weight (kilograms)	11.90 ± 2.26	11.63 ± 1.79
Location of Meatus		
Distal	38 (76)	37 (74)
Midshaft	10 (20)	12 (24)
Proximal	2 (4)	1 (2)

POD 5.2

Long-term followup after pediatric pyeloplasty: Variation in postoperative care and rates of secondary intervention within a population-based cohort

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Introduction: Pediatric pyeloplasty (PP) is the gold-standard treatment for ureteropelvic junction obstruction. Despite evidence from prior studies that a two-year followup is adequate following PP, there is considerable variation in the duration and intensity of followup protocols. The purpose of this study was to assess the variation in duration and cost of care following PP and to investigate the predictors of secondary intervention up to five years after PP.

Methods: Through a retrospective, population-based cohort study, patients (<13 years) who underwent PP in Ontario between April 2002 and March 2016 were studied using routinely collected data analyzed at ICES. Baseline variables included demographics, surgical approach, laterality, surgeon experience, and annual institution PP volume. We additionally captured early ER visits and rehospitalization. The primary outcome was secondary intervention, including re-do PP. Urologist consults, imaging services, and cost of care were captured during followup. Regression analyses were performed to predict secondary intervention within five years of PP.

Results: The study included 1049 patients with a median age of two (IQR 0–7) years at the time of PP, 72.5% of which were male (Table 1). A high incidence of 19.1% was noted for an ER visit within 30 days of PP. The overall re-do pyeloplasty rate was 3.8%. Of the 13.6% of patients who had at least one secondary intervention during the followup period, 90.2% occurred within three years of the initial PP (Table 2). The overall median cost of followup care was $1472 CAD (IQR $292–31 133) per patient. Regression analysis did not reveal any statistically significant predictors of secondary intervention; however, there was a trend towards boys being more likely to undergo secondary intervention >2 years after PP (OR 2.32, 95%CI 0.89–6.03, p=0.085) (Table 3).

Conclusions: This study demonstrates that a high proportion of PP are completed successfully; however, there was a high incidence of early ER visits and 14% underwent a secondary intervention. Nevertheless, most interventions occurred within three years of initial PP, indicating that longer followup is likely unnecessary. Variability in duration of followup and investigations ordered should be addressed.

Acknowledgements: Children's Hospital at London Health Sciences Centre and Children's Health Foundation Fellowship: A Retrospective Population-based Cohort Study to Identify the Time Period When Paediatric Surgical Complications Occur to Propose Ideal Follow-up Duration.

POD 5.2. Table 1. Baseline variables of PP patients, Ontario (2002–2016)

Variable	Overall n=1049	Age <1 n=393	Age 1+ n=656	SD	p
Patient age					
Mean (SD)	3.62 (4.12)	0.00 (0.00)	5.78 (3.82)	2.141	<0.0001
Median (IQR)	2 (0–7)	0 (0–0)	5 (2–9)	3.935	<0.0001
Patient sex					
Male	761 (72.5%)	292 (74.3%)	469 (71.5%)	0.063	0.3242
Female	288 (27.5%)	101 (25.7%)	187 (28.5%)	0.063	
Rural resident					
Yes	99 (9.4%)	30 (7.6%)	69 (10.5%)	0.101	0.1219
No	950 (90.6%)	363 (92.4%)	587 (89.5%)	0.101	
Income quintile					
Quintile 1	190 (18.1%)	83 (21.1%)	107 (16.3%)	0.124	0.0179
Quintile 2	186 (17.7%)	76 (19.3%)	110 (16.8%)	0.067	
Quintile 3	230 (21.9%)	88 (22.4%)	142 (21.6%)	0.018	
Quintile 4	215 (20.5%)	81 (20.6%)	134 (20.4%)	0.005	
Quintile 5	228 (21.7%)	65 (16.5%)	163 (24.8%)	0.206	
Surgery in the past year					
Yes	157 (15.0%)	44 (11.2%)	113 (17.2%)	0.173	0.0081
Surgical approach					
Laparoscopic	272 (25.9%)	*1–5	*267–271	1.156	<0.0001
Open – Dorsal	216 (20.6%)	112 (28.5%)	104 (15.9%)	0.308	
Open – Flank	532 (50.7%)	264 (67.2%)	268 (40.9%)	0.548	
Open – Unclassified	29 (2.8%)	*12–16	*13–17	0.099	
Laterality					
Right	345 (32.9%)	150 (38.2%)	195 (29.7%)	0.179	0.0015
Left	622 (59.3%)	224 (57.0%)	398 (60.7%)	0.075	
Bilateral/ missing	82 (7.8%)	19 (4.8%)	63 (9.6%)	0.185	
Stent insertion					
Yes	413 (39.4%)	125 (31.8%)	288 (43.9%)	0.251	0.0001
Hospital length of stay (days)					
Mean (SD)	4.09 (5.34)	4.23 (8.39)	4.01 (1.87)	0.036	0.517
Median (IQR)	3 (3–4)	3 (2–4)	4 (3–5)	0.446	<0.0001

Age=1: 121, age=2: 68, age=3: 46, age=4: 421. Trend test for proportion of infant (<1 yr) cases over time: p–value=0.0069. Number with stent insertion according to definition 1 (OHIP feecode 'Z623' or 'E773'): 109.

POD 5.2. Table 1 (cont'd). Baseline variables of PP patients, Ontario (2002–2016)

Variable	Overall n=1049	Age <1 n=393	Age 1+ n=656	SD	p
Fiscal year					
2002	69 (6.6%)	24 (6.1%)	45 (6.9%)	0.031	0.4644
2003	80 (7.6%)	26 (6.6%)	54 (8.2%)	0.062	
2004	88 (8.4%)	21 (5.3%)	67 (10.2%)	0.183	
2005	83 (7.9%)	33 (8.4%)	50 (7.6%)	0.029	
2006	69 (6.6%)	22 (5.6%)	47 (7.2%)	0.064	
2007	68 (6.5%)	25 (6.4%)	43 (6.6%)	0.008	
2008	63 (6.0%)	24 (6.1%)	39 (5.9%)	0.007	
2009	57 (5.4%)	23 (5.9%)	34 (5.2%)	0.029	
2010	83 (7.9%)	33 (8.4%)	50 (7.6%)	0.029	
2011	60 (5.7%)	24 (6.1%)	36 (5.5%)	0.026	
2012	71 (6.8%)	30 (7.6%)	41 (6.3%)	0.054	
2013	83 (7.9%)	33 (8.4%)	50 (7.6%)	0.029	
2014	88 (8.4%)	37 (9.4%)	51 (7.8%)	0.059	
2015	87 (8.3%)	38 (9.7%)	49 (7.5%)	0.079	
Surgeon years of experience					
Mean (SD)	23.64 (8.63)	23.31 (8.47)	23.84 (8.72)	0.062	0.3343
Median (IQR)	21 (18–31)	21 (17–31)	21 (18–31)	0.065	0.3079
Institution annual pyeloplasty volume					
Mean (SD)	36.40 (20.07)	40.47 (18.89)	33.96 (20.38)	0.331	<0.0001
Median (IQR)	41 (20–53)	49 (23–54)	27 (16–51)	0.331	<0.0001

Age=1: 121, age=2: 68, age=3: 46, age=4: 421. Trend test for proportion of infant (<1 yr) cases over time: p–value=0.0069. Number with stent insertion according to definition 1 (OHIP feecode 'Z623' or 'E773'): 109.

POD 5.2. Table 2. Time to last secondary intervention among patients undergoing PP with at least one reoperation

Description	Overall n=143	Age <1 n=62	Age 1+ n=81
Time to last secondary intervention			
Mean (SD)	433.13 (469.09)	477.27 (467.96)	399.33 (470.04)
Median (IQR)	226 (71–735)	316 (98–752)	140 (64–620)
Last secondary intervention, n (%)			
During 1st year of followup	87 (60.8%)	34 (54.8%)	53 (65.4%)
During 2nd year of followup	20 (14.0%)	10 (16.1%)	10 (12.3%)
During 3rd year of followup	22 (15.4%)	12 (19.4%)	10 (12.3%)
During 4th year of followup	6 (4.2%)	1–5*	1–5*
During 5th year of followup	8 (5.6%)	1–5*	1–5*
At least one secondary intervention >2 years after surgery, n (%)	36 (25.2%)	18 (29.0%)	18 (22.2%)

Percentage of patients who survive to 2 years after the index date: >99%.

POD 5.2. Table 3. Regression analysis predicting long-term reoperation more than 2 years after initial PP

Covariate	OR	95% CI	p
Patient age	0.950	0.854–1.057	0.343
Patient sex (ref=female)	2.316	0.889–6.029	0.086
Approach (open vs. laparoscopic) (ref=laparoscopic)	2.174	0.674–7.014	0.194
Early complication (ref=no)	1.396	0.695–2.805	0.348

POD 5.3

Gender disparity within the Canadian Urological Association: A comparison with the Quebec Urological Association

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Introduction: With the resources and opportunities they provide, medical associations play a major role in physicians' career development. The aim of this study was to examine gender diversity within the Canadian Urological Association (CUA) and to compare it with the Quebec Urological Association (QUA).

Methods: A retrospective review from 2012–2022 of women's representation regarding membership, committee composition, awards, grants, and conferences was performed. Data and gender were extracted from databases and annual meeting programs provided by the CUA and the QUA. Chi-squared tests were used.

Results: In 2022, females accounted for 18% of the membership at the CUA and 23% at the QUA (p=0.0764). The female proportion of committee members at the CUA increased from 9% (63/676) from 2012–2016 to 14% (177/1230) from 2017–2022 (p≤0.0001). In 2022, the QUA had a significantly higher proportion of female committee members than the CUA, with 39% (15/38) vs. 22% (50/225) women, respectively (p=0.0226). There was a greater female representation in the CUA committees than in the entire membership in 2022. All past CUA and QUA presidents from 2012–2022 have been male. Moreover, from 2012–2022, 11% (5/46) of the CUA awards were given to women, whereas 38% (13/34) of the award winners at the QUA (p=0.0038) were women over the same period. From 2012–2022, there were 16% (20/126) female CUA grant recipients and 44% (14/32) QUA grant recipients (p=0.0095). The proportion of grants awarded to women at the CUA increased from 13% (5/39) in 2012–2016 to 17% (15/87) in 2017–2022. Two percent (1/53) of the plenary invited speakers at the CUA annual meetings from 2012–2016 were women, compared with 21% (14/66) from 2017–2022 (p=.0016). In 2022, 53% (9/17) of invited plenary faculty were women at the QUA annual conference, compared to 23% (3/13) at the CUA annual meeting (p=0.0980).

Conclusions: Over the past 10 years, there has been an increase in women's representation at the CUA and the QUA; however, data show that the increase in women's representation at the QUA has outpaced that of the CUA. A review of the trends of female representation is crucial for tracking progress in gender equity and we hope this will help support initiatives of the CUA's Equity, Diversity, and Inclusion Committee.

Acknowledgements: The authors wish to thank the Equity, Diversity, and Inclusion Committee of the CUA for their support.

POD 5.4

Bridging the gap: The development of a transition-related vaginoplasty program in a publicly funded healthcare system

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Introduction: Transition-related surgery, particularly genital reconstructive surgery, has been historically difficult to access. For decades, Canada had only one private clinic offering vaginoplasty, necessitating significant travel for most Canadians. Herein, we present the approach to development and the early outcome data from Canada's first publicly funded transition-related vaginoplasty program.

Methods: A new transition-related surgery program was developed to improve access to vaginoplasty in Ontario. Two urologists with limited exposure to transition-related surgery during training agreed to spearhead the program. Our surgeons, nurse practitioner, and operating room nurse lead traveled to multiple centers of excellence to observe vaginoplasties and the accompanying perioperative care. On program initiation, a surgeon with considerable experience in vaginoplasty traveled to our center to assist with the first three cases. We conducted a retrospective chart review of the first 30 consecutive patients undergoing vaginoplasty at our institution. Descriptive analyses were performed for all variables. Pearson correlation coefficients and associated p-values were calculated for continuous variables.

Results: Mean age was 34.7 years and mean followup time was 13.2 months. Operative time decreased over the course of the study (r(26)=-0.55, p=0.001). There was one (4%) intraoperative complication (a rectal injury). All but one patient (96%) were discharged on postoperative day three. There were no readmissions within the first 30 days of recovery. Postoperatively, over half of patients developed some degree of wound dehiscence (n=17, 61%) and/or hyper granulation tissue (n=14, 50%). There was one (4%) urinary tract infection. Six patients (21%) had an acute worsening of their mental health postoperatively. At the most recent followup, most patients reported voiding well (n=27, 96%), achieving orgasms (n=23, 96%), and satisfaction with the esthetics of the vulva (n=20, 71%).

Conclusions: Our results demonstrate that a vaginoplasty surgical program can be safely established in a publicly funded institution. Our experience highlights a need for postoperative followup care and mental health supports, which we believe are best provided close to home.

POD 5.5

Quality of evidence and strength of recommendations of Canadian Urological Association clinical practice guidelines

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Introduction: The Canadian Urological Association (CUA) is a major developer of evidence-based clinical practice guidelines (CPGs) to inform clinical practice and health policy. Since 2018, the CUA has committed to adopting the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) to its guideline development process. We performed this study to evaluate how the CUA's CPGs assessed the quality of evidence (QoE) and graded the strength of recommendations (SoR).

Methods: We systematically searched and analyzed all CPGs published by the CUA on the organization's website since 2018. Two independent reviewers abstracted the CPG's topic, year of publication, publication type (i.e., primary guidance document or update), the approach used to rate the quality of evidence and the strength of recommendations, and actual recommendations. We performed descriptive statistics using SPSS version 27.0.

Results: We identified 21 guidelines published from 2018–2022. The median number of recommendations was 27 (interquartile range 17.5–39.5). Most guidelines (13; 61.9%) reported using the Oxford Center for Evidence-Based Medicine (CEBM) levels of evidence to rate the QoE with the levels I, II, III, and IV, including an International Consultation of Urological Disease (ICUD; 28.6%) or World Health Organization (WHO; 4.7%) modification. Only eight guidelines (38.1%) reported the use of GRADE. The SoR was reported using six different approaches: GRADE (10; 47.6%), modified GRADE (2; 9.5%), Oxford CEBM (2; 9.5%), Oxford CEBM, and ICUD modified (5; 23.8%), as well as the AUA approach (1; 4.8%) and using consensus (1; 4.8%). Only seven CPGs (33.3%) used GRADE both for the QoE and SoR. Four of 10 (40%) guideline documents claiming the use of GRADE for rating the strength of evidence added non-GRADE categories, such as 'moderate recommendation' or 'expert opinion.' None of the guideline documents provided guidance to the users on how different SoR should be interpreted by patients, urologists, or policymakers.

Conclusions: CUA guidelines published over the last five years have been inconsistent in their methods for rating the QoE and SoR, which may be confusing to the guideline user and hinder implementation. When the GRADE approach was purportedly used, guideline developers often did not adhere to published criteria for applying GRADE. Increased efforts appear warranted to achieve a consistent, rigorous, and transparent approach to guideline development across CUA panels.

POD 5.6

A comparative analysis of embolization vs. surgical management of varicocele in the province of Ontario: A population-based study

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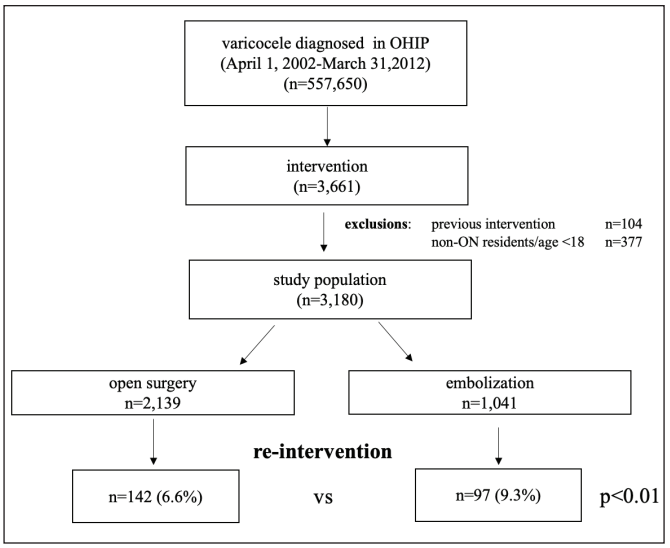
Introduction: The optimal approach for management of varicocele is currently unknown. Existing evidence is of low quality, with no randomized controlled studies comparing approaches. We provide the first population-based analysis of embolization vs. surgical management of varicocele.



POD 5.6. Figure 1. Flow chart of study population showing rates of reintervention between those varicoceles managed with embolization vs. surgical management.

Methods: All patients in the province of Ontario who underwent treatment of their varicocele between April 1, 2002, and March 31, 2012, were identified using ICES databases. The index intervention was considered the approach first used in the treatment-naive patient — open surgery or embolization. The primary outcome was the rate of intervention, while secondary outcomes included complications and healthcare utilization.

Results: We identified 557 650 male patients with a varicocele diagnosis, of whom n=3180 underwent an intervention and were included in the study: n=2139(67%) underwent open varicocelectomy, while n=1041(33%) underwent embolization as their index intervention (Figure 1). Reintervention was more common among those who underwent embolization compared to those who underwent surgical management (n=97 [9.3%] vs. n=142 [6.6%], p<0.01). While controlling for demographics, regression analysis showed surgical varicocelectomy was still less likely to require intervention (OR 0.68, CI 0.52–0.90, p<0.01). Those who underwent surgical management had higher rates of complications requiring ED visits within one month of the procedure. This association was persistent on regression analysis, controlling for demographics (OR 1.69, CI 1.27–2.25, p<0.01). There was no difference in hospital admissions between the groups (OR 1.53, CI 0.94–2.49, p=0.087). There was a weak association between socioeconomic status (SES) and type of index intervention, with the least wealthy income quintile more likely to receive surgery (OR 1.27, CI 1.01–1.60, p=0.04), while there was no difference based on rurality and age.

Conclusions: This first population-based study to examine surgical management vs. embolization for treatment of varicocele shows that surgery is less likely to require repeat intervention but with a modest increased risk of complications.

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