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Clinical features and outcomes in pediatric severe scald burn patients

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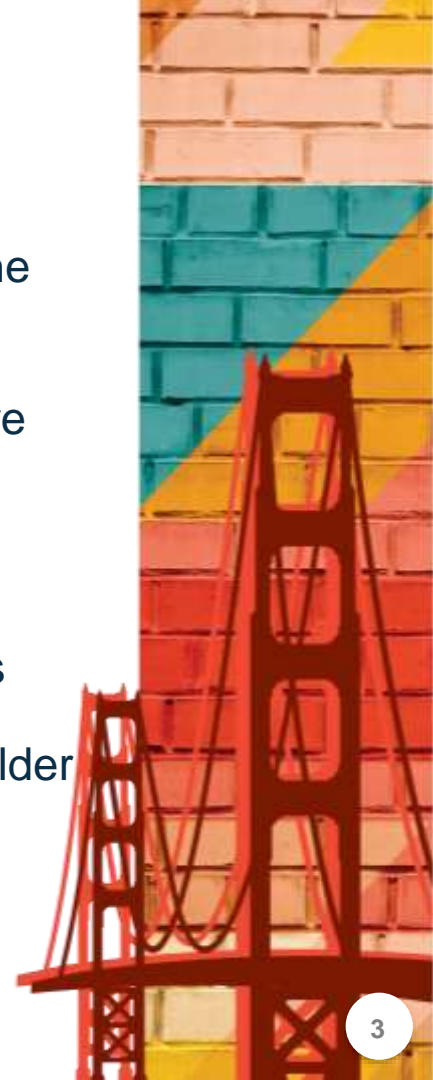
Clinical features and outcomes in pediatric severe scald burn patients

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Background

- Study performed by 5 US pediatric burn centers participating in the Pediatric Injury and Quality Improvement Collaborative (PIQIC)
- Toddler scald burns seem to experience more frequent and severe complications vs. older children
- Paucity of data on toddler scald burns
- Little known about pathophysiology that creates these differences
- Study compares clinical features, complications of younger and older pediatric patients



Methods

- Subset of patients from multicenter, retrospective cohort study 2010-2020
- 95 patients with scald injury
- Excluded if total body surface area (TBSA) <15% or non-scald injury
- Categorized by age into three groups:
 - $0 < \text{age} < 3$; $3 \leq \text{age} < 10$; $\text{age} \geq 10$
 - Group older than 10 excluded – only 3 patients
- Demographics, clinical features, adverse events compared

Methods

- Metrics chosen based on American Burn Association annually reported metrics
 - Abdominal complications = perforation, exploratory laparotomy, abdominal drain
- Categorical variables reported as counts and percentages
 - P-values by Fisher's Exact Test
- Continuous variables reported with median and inter-quartile ranges
 - P-values using Wilcoxon Rank Sum test

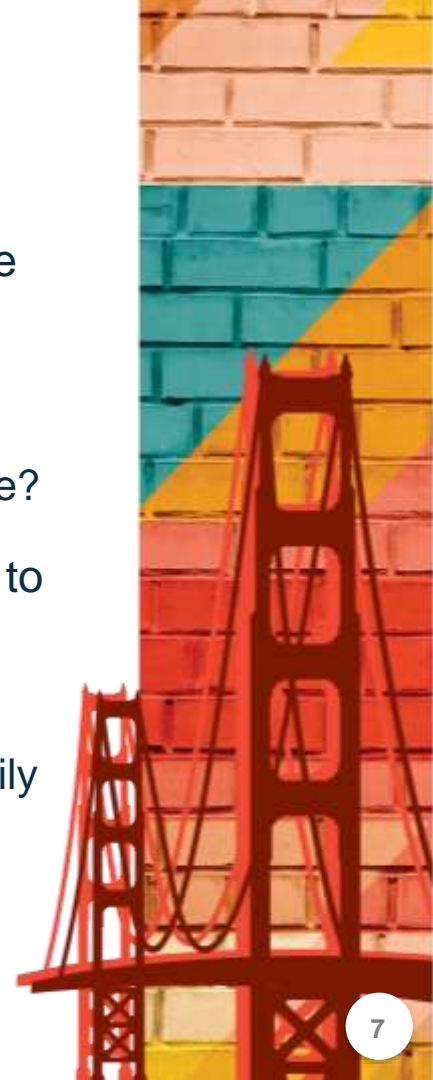


Results

SCALD BURNS			
	0-3 years (N=73)	3-10 years (N=22)	P-value
Documented Prior Comorbidity	6 (8%)	3 (14%)	0.43
Percent Full Thickness	0 [0-3]	0 [0-4]	0.08
Percent TBSA	21 [18-30]	24 [21-36]	<0.001
Mortality	0 (0%)	2 (9%)	0.05
Sepsis	10 (14%)	3 (14%)	0.99
Nosocomial Infection	19 (26%)	5 (23%)	0.99
Abdominal Complications	5 (7%)	0 (0%)	0.59
Hospital LOS	19 [12-40]	21 [17-40]	<0.001
PICU LOS	3 [2-16]	3 [2-9]	<0.001
Mechanical Ventilator Days	13 [1-137]	5 [2-138]	<0.001

Conclusions

- Despite lower TBSA in toddlers, both groups had similar incidence of sepsis and nosocomial infection
- Remains unclear why this difference exists
 - Possibly related to dysregulation in the inflammatory response?
- First large report of abdominal complication in patient population, to our knowledge
- What does this mean clinically?
 - A smaller TBSA in a younger scald patient does not necessarily mean they will be uncomplicated



Conclusions

- Limitations
 - Not all centers utilized standard prediction of illness severity
 - Many predictor variables not included
- Future directions
 - Evaluate other predictor variables: fluid resuscitation, vasoactive infusion scores, markers of inflammation



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THANK YOU

