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### Optimal Treatment of Pediatric Breast Abscesses: A Retrospective Analysis

Charlene Dekonenko

Obiyo O. Osuchukwu

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# Optimal Treatment of Pediatric Breast Abscesses: A Retrospective Analysis

**Submitting/Presenting Author (must be a trainee):** Charlene Dekonenko, MD (submitting)  
Obiyo Osuchukwu, MD MPH (presenting)

**Primary Email Address:** cdekonenko@cmh.edu

**Resident/Psychology Intern ( $\leq 1$  month of dedicated research time)**

**Resident/Ph.D/post graduate ( $> 1$  month of dedicated research time)**

**Fellow** (both submitting and presenting authors)

**Primary Mentor (one name only):** Jason D. Fraser MD

**Other authors/contributors involved in project:** Wendy Jo Svetanoff MD MPH, Obiyo O. Osuchukwu MD MPH, Justin A. Sobrino MD, R. Michael Dorman MD, Tolulope A. Oyetunji MD MPH, Jason D. Fraser MD

**IRB Number:** 17120711

**Describe role of Submitting/Presenting Trainee in this project (limit 150 words):**

Submitting Trainee: Pediatric Surgical Scholar (research fellow in department of surgery) and primary author

Presenting Trainee: Pediatric Surgical Scholar (research fellow in department of surgery) and third author

## **Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words**

**Background:** Literature on the management of pediatric breast abscess is sparse, therefore treatment is based on adult literature which describes a shift from incision and drainage (I&D) to needle aspiration. However, children may not have the same risk factors and may require different treatment due to concern for damage to the developing breast bud with invasive treatment. We sought to characterize pediatric breast abscesses and compare outcomes.

### **Objectives/Goal:**

To characterize pediatric breast abscess and determine the optimal initial treatment.

**Methods/Design:** A retrospective review was conducted of patients with a breast abscess treated at our institution from January 2008-December 2018. Patients  $>18$  years, those initially treated at other institutions, those with an actively draining abscess or a post-operative abscess were excluded. Primary outcome was persistent disease. Secondary outcomes included antibiotic utilization, number and type of procedures required, and risk factors for abscess and recurrence. Statistical analysis was performed using STATA® (StataCorp, College Station, TX) and a  $p$ -value of  $<0.05$  determined significance.

**Results:** Ninety-six patients met inclusion criteria. The median age was 12.8 years [IQR 4.9, 14.3], 81% were female, and 51% were African American. Clinical data is shown in Table 1. Most commonly, patients were treated with antibiotics alone (47%), followed by I&D (27%), ultrasound guided aspiration (20%), and blind aspiration alone (6%). Abscess cultures grew predominantly MRSA in infants and children, and coagulase negative staphylococcus in adolescents ( $p<0.01$ ). Twelve patients (13%) had persistent disease. Of these, initial treatment was antibiotic alone in 9 patients, needle aspiration in 2, and I&D in 1 ( $p=0.35$ ). There was no significant difference in demographic or clinical characteristics in those with persistent disease compared to those that responded to initial treatment. Antibiotics alone yielded an 80% success rate in primary treatment.

**Conclusions:** Initial treatment modality was not associated with persistent disease, thus a trial of antibiotics alone is warranted to minimize the theoretical risk of breast bud damage with intervention.

**Table 1: Clinical characteristics of pediatric patients with breast abscess**

	Frequency or Median [IQR] (n=96)
<b>Symptom Duration (days)</b>	3 [2, 5]
<b>Diagnostic Method</b>	
US	51%
Physical Exam	49%
<b>Abscess Size (cm)</b>	2 [1.5, 2.7]
<b>Treatment</b>	
Antibiotics alone	47%
US Aspiration	20%
Blind Aspiration	6%
Incision & Drainage	27%
<b>Antibiotic Used</b>	
Clindamycin	68%
Trimethoprim-Sulfamethoxazole	21%
Cephalexin	5%
Mupirocin	2%
None	4%
<b>Culture Results</b>	
MRSA	35%
Coagulase negative staphylococcus	35%
Staphylococcus aureus	20%
Gram negative bacteria	6%
No growth	4%
<b>Antibiotic Duration (days)</b>	10 [10, 10]