



<http://dx.doi.org/10.1016/j.jemermed.2016.08.020>

Brief Report

PEDIATRIC ADNEXAL TORSION: NOT JUST A POSTMENARCHAL PROBLEM

Abigail M. Schuh, MD,* Eileen J. Klein, MD, MPH,* Rebecca J. Allred, MD,† Ana Christensen, MPH,* and Julie C. Brown, MD, MPH*

*Department of Pediatrics, Division of Pediatric Emergency Medicine, University of Washington and Seattle Children's Hospital, Seattle, Washington and †University of Washington School of Medicine, Seattle, Washington

Corresponding Address: Abigail M. Schuh, MD, Division of Pediatric Emergency Medicine, University of Washington and Seattle Children's Hospital, 4800 Sandpoint Way NE, Mailstop MB 7.520, Seattle, WA 98105

Abstract—Background: Pediatric adnexal torsion is rare, can be challenging to recognize, and may result in ovarian loss. **Objective:** We sought to identify and compare the defining characteristics of adnexal torsion in premenarchal and postmenarchal girls. **Methods:** A retrospective cohort study was performed at a tertiary care children's hospital, including patients diagnosed postnatally with adnexal (ovarian or tubal) torsion between 1997 and 2013. Proportions were compared using relative risk regression. **Results:** Adnexal torsion was found in 59 premenarchal and 43 postmenarchal girls. Abdominal pain was the most common chief complaint (54%). History included reports of pain (96%), vomiting (67%), and fever (19%). Excluding 12 patients with isolated tubal torsion and 19 with a teratoma, there were no statistically significant differences in ovarian loss in premenarchal vs. postmenarchal girls (47% and 25% respectively; relative risk [RR] = 1.8 [95% confidence interval {CI} 0.9–3.8]), left- vs. right-sided torsion (47% and 32%; RR = 1.5 [95% CI 0.8–2.7]), pain duration ≤ 2 days vs. > 2 days (31% and 41%; RR = 0.8 [95% CI 0.4–1.5]; n = 64) and severe pain vs. mild to moderate (38% and 33%; RR = 1.1 [95% CI 0.7–1.5]; n = 56). **Conclusions:** The diagnosis of pediatric adnexal torsion is difficult

and often delayed. Pain and tenderness may not be isolated to a unilateral lower quadrant. Although traditionally considered a postmenarchal problem, in a pediatric academic emergency department adnexal torsion occurred with similar frequency in premenarchal and postmenarchal girls. The potential for organ salvage means that adnexal torsion should be considered in all females presenting with acute abdominal pain regardless of age or menstrual history. © 2016 Elsevier Inc. All rights reserved.

Keywords—adnexal; ovarian; ovary; pediatric; torsion

INTRODUCTION

Ovarian torsion is an uncommon cause of abdominal pain in children, and it can be difficult to diagnose and may result in ovarian loss (1–4). Patients frequently present with nonspecific symptoms consistent with other more common abdominal conditions, including appendicitis, gastroenteritis, urinary tract infection, and constipation (1–3). Previous research suggests that physicians performing the initial assessment are less likely to make a correct first diagnosis in premenarchal vs. postmenarchal girls, and delays in surgical intervention may result in decreased rates of ovarian salvage (1,2,5). This study compares presentation, clinical findings, interventions, time to operation, and surgical outcomes

Reprints are not available from the authors.

Abigail M. Schuh, MD, is currently at the Department of Pediatrics, Division of Pediatric Emergency Medicine, Medical College of Wisconsin, Milwaukee, Wisconsin. Rebecca J. Allred, MD, is currently at the Department of Pathology, University of Utah, Salt Lake City, Utah.

RECEIVED: 4 April 2016; FINAL SUBMISSION RECEIVED: 11 August 2016;
 ACCEPTED: 22 August 2016

in premenarchal and postmenarchal girls treated for adnexal torsion over a 15.5-year period.

MATERIALS AND METHODS

This retrospective cohort study was performed at an academic pediatric hospital serving as a 5-state referral center. We reviewed all medical records between October 1, 1997 and March 13, 2013 for females < 22 years of age who had an *International Classification of Diseases, 9th revision* diagnosis code of 620.5 for torsion of ovary, ovarian pedicle, or fallopian tube assigned during their emergency department visit or hospitalization. We included patients with an operative diagnosis of adnexal (ovarian or fallopian tube) torsion. We excluded patients seen only for follow-up visits after previous treatment for adnexal torsion at another institution and neonates who had been diagnosed via ultrasound in utero or within the first month of life. Patients were classified as either pre- or postmenarchal based on menstrual history. When menstrual history was unavailable, we estimated menarchal status based on the average age of menarche for girls in the United States (6). Girls < 12.3 years of age at the time of visit were classified as premenarchal, and girls \geq 12.3 years of age as postmenarchal. Pain duration was defined as the time from onset of pain to the time of presentation to the hospital. Pain intensity was reported using a scale of 0 (no pain) to 10 (worst pain ever). We defined a score of 1 to 3 as mild, 4 to 6 as moderate, and 7 to 10 as severe. Blood cell counts were defined as elevated based on our laboratory's age-based norms. Underlying abnormalities predisposing torsion were categorized as cysts if a cyst was described as large or prominent; small cysts or nodules were considered nonpathologic. Tumors were categorized based on pathology reports. Statistical analyses were performed using Stata software (version 12; StataCorp, College Station, TX). Relative risks and confidence intervals for bivariate analysis were obtained using relative risk regression. Time comparisons were conducted using linear regression.

RESULTS

There were 126 girls with an *International Classification of Diseases, 9th revision* diagnosis 620.5 who were identified for review. Twenty-four patients were excluded; three because of neonatal status, two because no surgery was performed and therefore a diagnosis of adnexal torsion could not be confirmed, one because intermittent torsion was suspected but there was no torsion at time of surgery, 15 because surgery revealed an alternate diagnosis (one ruptured ovarian cyst, 10 simple or hemorrhagic ovarian cysts, two torsions of paratubal cysts without

tubal or ovarian torsion, one ruptured appendix, and one teratoma without torsion) and three because the patient's visit was limited to follow-up imaging. There were 102 remaining cases of adnexal torsion for analysis.

Baseline characteristics and the presenting chief complaints are shown in Table 1. Fifty-nine girls were categorized as premenarchal, 39 by history and 20 by age. Thirty-two of the 42 11- to 13-year-olds had menstrual history recorded. Four of the 43 postmenarchal girls were assigned as postmenarchal based on an age \geq 12.3 years.

Data regarding symptoms, signs, laboratory results, and imaging studies are shown in Table 2.

Pain was reported in 98 patients (96%); pain was absent in one patient (1%), and the remaining three patients were nonverbal (3%). Of 95 girls who reported pain duration, pain had been present \leq 2 days at presentation in 53% of premenarchal and 48% of postmenarchal girls (relative risk [RR] = 1.1 [95% confidence interval (CI) 0.7–1.7]). Severe pain was noted in the admission history in 49% of the 41 premenarchal and 59% of the 39 postmenarchal girls who had pain severity reported (RR = 0.9 [95% CI 0.9–1.5]). Six of the 15 premenarchal girls with teratomas reported severe pain at the time of presentation. Pain was isolated to the right or left lower quadrant in 63% of postmenarchal girls and 64% of premenarchal girls (RR = 1.0 [95% CI 0.8–1.4]).

Ninety-two (90%) patients had tenderness at the time of examination; eight of the 10 patients who were non-tender on examination were premenarchal. Location of tenderness was documented for 90% of patients with tenderness. Tenderness was isolated to the right lower quadrant in 21 patients and to the left lower quadrant in 15 patients. For patients with documented tenderness location, premenarchal patients were as likely as postmenarchal patients to have isolated tenderness on the side of the torsion (32% of 44 premenarchal vs. 44% of 39 postmenarchal, odds ratio = 0.7 [95% CI 0.4–1.3]).

All patients had imaging studies: 63 had ultrasound imaging only, 29 had ultrasound and computed tomography (CT) scans, seven had CT scans alone, two had ultrasound and magnetic resonance imaging (MRI) scans, and one had both CT and MRI scans. Two ultrasound results were initially read as negative. One of these patients returned twice for continued abdominal pain; at the first visit, she had a normal appendix ultrasound, but her ovaries were not examined during that study. A CT scan at the second return visit (21 days after the initial presentation) revealed a calcified mass posterior to the uterus that was later found to be a calcified ovary consistent with torsion and necrosis. The other patient with a false negative ultrasound had imaging performed at an outside facility that was read as a simple cyst. A follow-up MRI scan revealed an enlarged cystic structure that was

Download English Version:

<https://daneshyari.com/en/article/5653990>

Download Persian Version:

<https://daneshyari.com/article/5653990>

[Daneshyari.com](https://daneshyari.com)