



Original Contributions



ADOLESCENT WOMEN WITH SEXUALLY TRANSMITTED INFECTIONS: WHO GETS LOST TO FOLLOW-UP?

Roman Krivochenitser, MD,* Erica Bicker, MD,* David Whalen, MD,† Cynthia Gardiner, RN,‡ and Jeffrey S. Jones, MD§

*Michigan State University College of Human Medicine, Grand Rapids, Michigan, †Department of Emergency Medicine, Saint Mary's Health Care, Grand Rapids, Michigan, ‡Department of Emergency Medicine, Helen DeVos Children's Hospital, Grand Rapids, Michigan, and §Michigan State University Program in Emergency Medicine, Spectrum Health Hospital-Butterworth Campus, Grand Rapids, Michigan
Reprint Address: Roman Krivochenitser, MD, Michigan State University College of Human Medicine, 205 Morris Ave SE, Grand Rapids, MI 49503

Abstract—Background: Adolescent patients comprise the highest rate of *Neisseria gonorrhoeae* (GC) and *Chlamydia trachomatis* (CT) in the United States. These patients often initially present to the emergency department (ED) with vague symptoms. **Objectives:** 1) Quantify the frequency of underrecognized GC and CT cervical infections in adolescent women tested in the ED; 2) describe and compare the characteristics of those treated and not treated during the initial visit; and 3) quantify the delay interval until treatment was provided. **Methods:** This was a retrospective, cohort analysis of consecutive females (ages 13–19 years) seen at four academic medical centers over a 36-month period with positive results for GC/CT. Our key outcome measures were the proportion of adolescent females being untreated in the ED, the time to subsequent treatment, and the proportion lost to follow-up. **Results:** During the study period, 382 female adolescents had positive polymerase chain reaction studies for GC or CT or both; 266 (70%) were not treated in the ED. Untreated patients were significantly more likely to have a discharge diagnosis of urinary tract infection (23% vs. 11%, $p < 0.008$), new pregnancy (29% vs. 8%, $p < 0.001$), and vaginitis (24.8% vs. 5%, $p < 0.001$). Subsequently, only 11.7% (31/266) of the

untreated patients fit the Centers for Disease Control and Prevention guidelines for empiric treatment of pelvic inflammatory disease. After telephone, mail, and public health follow-up, treatment could be documented for only 59% of the patients. **Conclusion:** The majority of adolescent women found to have GC or CT or both in the ED were not treated at presentation. © 2014 Elsevier Inc.

Keywords—adolescents; diagnosis; treatment; *Neisseria gonorrhoea*; *Chlamydia trachomatis*; emergency department; follow-up

INTRODUCTION

Teens and young adults have the highest rates of sexually transmitted infections (STIs) of any age group. According to the Centers for Disease Control and Prevention (CDC), nearly half of the 19 million new cases of STIs each year occur in young people ages 15–24 years. The highest prevalence of *Chlamydia trachomatis* (CT) and *Neisseria gonorrhoea* (GC), the two most common bacterial STIs, occur in adolescents 15–19 years of age (1). The U.S. Preventive Services Task Force recommends screening all women 25 years and younger for CT and GC (2). Left untreated, CT and GC can be spread through the population and cause lifelong problems such as pelvic inflammatory disease and ultimately, infertility. Symptomatic patients

This work was presented at the American College of Emergency Physicians Research Forum in Denver, Colorado October 8–9, 2012; and presented at the National American Medical Association Research Conference in Honolulu, Hawaii November 9–10, 2012.

with CT and GC often present to the emergency department (ED) as their first point of contact with the health care setting (3–5). There are limited data describing the frequency of CT and GC pelvic infections detected by ED bacteriologic testing and the lack of treatment due to unconvincing signs or symptoms. The objectives of this study were to quantify the frequency of untreated GC and CT cervical infections in female adolescents tested in the ED, describe and compare the characteristics of those treated and not treated during the initial visit, and quantify the delay interval until antibiotic treatment was provided.

METHODS

We conducted a retrospective cohort analysis out of four major academic hospitals in Grand Rapids, Michigan, from January 2008 to December 2011. These hospitals included Spectrum Health Hospital-Butterworth Campus, Spectrum Health Hospital-Blodgett campus, Saint Mary's Health Care, and DeVos Children's Hospital. The combined annual ED census was approximately 230,000 during the study period. Each academic medical center received study approval by the Institutional Review Board.

The computerized medical records of female adolescent patients between the ages of 13 and 19 years who presented to the ED were reviewed. The common characteristic of these ED patients was that their chief complaint led the emergency physician to perform a pelvic examination. Patients were then included in the study if they had a positive gonorrhea or chlamydia polymerase chain reaction (PCR) test result. Adolescents that had repeat visits to the ED for the same STI, which was initially untreated or undertreated, were excluded from the study. Patients were also excluded if they presented for examination after alleged sexual assault, as each study institution has guidelines for empiric treatment of this specific subgroup of patients.

Data were collected on demographics, history of present illness, physical examination, treatment, ED discharge instructions, and follow-up communication. Using a 0 to 10 numeric rating scale, the triage nurse asked patients to rate their pain intensity. Laboratory data provided urinary analysis, pregnancy tests, Gram stain, wet mount, and PCR results for GC or CT. Positive PCR studies for GC or CT were the basis for selection of the medical records and were conducted using specimens collected by physicians in the ED as part of routine care during a pelvic examination.

The specimens were processed by using PCR amplification assays for both GC and CT (Abbott m2000, Des Plaines, IL). The turnaround time for study results was approximately 24 h among participating hospitals.

In cases with a positive result, the ED physician or quality assurance coordinator confirmed by chart review whether the patient received appropriate antibiotic therapy according to standard CDC guidelines. The clinician initiated telephone follow-up for antibiotic treatment in cases with positive results in which the patient was not treated at the time of the ED visit. Each participating hospital kept a log including test results, how long it took to treat each positive patient, and a record of all patients who could not be treated. Successful follow-up was defined as contacting the patient and providing proper antibiotics. The number of attempts and the reasons for unsuccessful follow-up were also noted.

Electronic medical chart review was conducted by research assistants, who were trained using a number of simulated medical record cases. Standardized abstraction forms were used to guide data collection. One investigator (R.K.) supervised data abstraction and ensured that data variable definitions were uniformly applied. A second investigator (J.S.J.) reviewed a random sample of 10% of medical charts to determine reliability. The interrater agreement for this sample of charts was excellent (k statistic = 0.93).

Our key outcome measures were the proportion of adolescent females being untreated in the participating EDs, the time to treatment, and the proportion lost to follow-up. Patients were considered lost to follow-up after three telephone attempts to establish communication and a written notice was sent to their provided address. Secondary outcomes were to identify any differences in demographics, medical history, or clinical findings in those patients who were treated empirically for suspected GC/CT vs. those that were discharged without antibiotics. A power analysis determined that at least 90 patients were needed in each group to detect a 10% difference in categorical variables with a power of 0.8 and an alpha of 0.05.

Data were entered into Microsoft Excel database (version 2007; Microsoft Corporation, Redmond, WA). Analyses were performed using SPSS statistical software (version 19.0; SPSS Inc., Chicago, IL). Descriptive statistics were used to describe the demographic variables and clinical findings. Discrete variables were analyzed with the use of Yates chi-squared test, corrected for continuity; two-tailed unpaired t -tests, and Wilcoxon rank-sum tests for continuous and ordinal data. Due to the number of variables compared, we chose a p -value < 0.01 for statistical significance (6,7).

RESULTS

During the 36-month study period, 3643 patients underwent a PCR test for either or both GC and CT. In total, 382 patients tested positive (10.5%, 95% confidence interval [CI] 9.5–11.5%) and 266 of them (69.6%, 95%

Download English Version:

<https://daneshyari.com/en/article/3246987>

Download Persian Version:

<https://daneshyari.com/article/3246987>

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