

Assessment and management of acute epididymo-orchitis in the emergency department

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Abstract

Aim

Acute epididymo-orchitis is a common presentation to the emergency department (ED). This project aimed to improve adherence to best practice standards in our ED.

Methods

A clinical practice guideline for emergency medicine physicians was developed in collaboration with urology and microbiology specialists. An audit was conducted before and after this guideline was implemented in our ED.

Results

51 patients were analysed in the baseline audit and there were 50 patients in the post intervention group. There was a statistically significant improvement in antibiotic prescriptions to patients diagnosed with epididymo-orchitis [74.5% (38/51) versus 96.0% (48/50), $p < 0.01$] between the first and second audits. For those who required antibiotics, there was an increase in the adherence of antibiotic prescribing as per local guidance [63.1% (24/38) versus 97.9% (47/48), $p < 0.01$] post the intervention.

Discussion

Development and introduction of a clinical practice guideline for acute epididymo-orchitis in our ED standardised care and improved conformity with best practice management.

Introduction

Epididymo-orchitis is a common cause of acute scrotal pain presentations to the emergency department (ED).¹ Emergency medicine clinicians have an important role in the recognition, assessment, and management of acute epididymo-orchitis. Underlying pathogenesis is primarily related to patient age and sexual activity. Sexually transmitted pathogens are the predominant cause in patients under the age of 35, therefore this cohort of patients should be tested for chlamydia and gonorrhoea and treated accordingly.^{2,3} Early diagnosis and treatment are essential, as serious complications can include abscess formation, testicular infarction, and infertility.

This project aimed to improve adherence to best practice standards in our emergency department (ED) for those patients presenting with acute epididymo-orchitis. We assessed adherence to appropriate laboratory testing, documentation of sexual history and adherence to antibiotic guidelines.

Methods

The project was classified by the TUH/ SJH research ethics committee (project ID: 0306) as a clinical audit and was approved to proceed.

A baseline audit was conducted between August and November 2020 of all patient identified retrospectively using the ED information system, Symphony. Clinical records were reviewed for documentation of sexual history taking, treatment prescribed and investigation ordered.

The multidisciplinary project team collated international expert opinion and published a clinical practice guideline “Management of patients with acute epididymo-orchitis in the emergency department” and included a management algorithm detailed in Figure 1.⁴ Classroom teaching and an e-learning programme was delivered to emergency physicians. Following these interventions, a prospective second cycle was completed between February and June 2021. Descriptive statistics were used and comparative analysis was performed using chi square.

Results

51 patients were included in the first cycle with ages ranged from 17 to 69 years (median age of 30.5 years). Within this cohort, 54.9% (n=28) were under the age of 35, therefore at higher risk of STI-associated epididymo-orchitis. The second loop included 50 patients with a median age was 32.5 years of age.

Documentation of sexual history increased between the first and second loops from 41.1% (21/50) to 60% (30/50). There was a statistically significant improvement in antibiotic

prescriptions to patients diagnosed with epididymo-orchitis [74.5% (38/51) versus 96.0% (48/50), $p < 0.01$]. Of those prescribed antibiotics there was an improved adherence of antibiotic prescribing as per local guidance [63.1% (24/38) versus 97.9% (47/48), $p < 0.01$] post the intervention.

Testing for chlamydia and gonorrhoea was performed on three (3/51, 5.8%) patients in the first loop and 8 (8/50, 16%) patients in the second loop. Patients were referred back to GP for more comprehensive STI screening.

Discussion

This quality improvement initiative established the best practice standards with development of an ED based guideline for those patients presenting with acute epididymo-orchitis. A completed loop audit identified some notable improvement in practices such as documentation of sexual history, antibiotic prescription, and adherence to local antibiotic guidance.

The numbers of patients diagnosed with acute epididymo-orchitis in our audit are small. However, it is consistent with studies from North America and the UK suggesting that such presentations represent a significant (albeit) small proportion of overall presentations to EDs.^{1,6}

A small number of samples were sent for sexually transmitted infections in our cohort. Our guideline recommends first pass urine or urethral swab for Nucleic Acid Amplification Test (NAAT) for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* using an APTIMA collection kit. It was recognised post hoc, that this kit was not a regular stock item in our ED during the study and this may account for the poor testing rates. This has since been corrected and the APTIMA kit is now a regular stock item.

In the UK, Gaithewaite *et al* found that regular movement of junior doctors, presents a challenge to conformity with the guidelines in their institution.⁶ Non Hospital Consultant Doctors from three postgraduate training schemes rotate four times a year in our ED. Our ED addresses this by highlighting the pathway at a standardised induction for all new medical staff and a copy of the pathway is signposted in our ambulatory care area within the department.

Introduction of a clinical guideline and a management algorithm for ED patients with acute epididymo-orchitis standardised care and rationalised management of these patients in our department.

Declarations of Conflicts of Interest:

None declared.

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Figure 1: Management algorithm for acute epididymo-orchitis in ED (taken from Cooper P, Flynn R, Prior AR, McCabe A. Management of patients with acute epididymo-orchitis in the emergency department. Irish Association for Emergency medicine clinical guideline committee)

