INTRODUCTION

Urinary tract infections (UTIs) are the second most common clinical indication for empirical antimicrobial treatment in primary and secondary care. It is therefore important that healthcare practitioners have clear criteria for the diagnosis of UTI as well as its treatment.

NICE, using SIGN guidelines as a resource, have developed guidance on diagnosing and managing UTIs in adults (aged 16 and over). At Whipps Cross University Hospital, current local guidelines that are based on these recommendations:

- Diagnosis should be based on a history of typical lower urinary tract symptoms (LUTS)
- Females with one or > 3 LUTS, or symptoms plus positive dipsticks are initially treated with a three-day course of antibiotics
- Urine dip can be used to exclude infection (not a substitute)
- Male with LUTS with suspected UTI are treated for at least 7 days, ideally with a quinolone
- Adults aged 65 years and over have a full clinical assessment before a diagnosis of UTI is made.

Patients with long term catheters (LTCs) and adults over 65 years old often present with atypical symptoms, including altered mental status, which makes diagnosis more challenging. Unfortunately there are no specific NICE guidelines that aid in diagnosis and management of these groups of patients, particularly the over 65s.

For patients presenting with atypical symptoms the McGeer criteria and the Leeds criteria, which were developed for the purpose of surveillance and outcomes assessment in nursing homes, are useful additional guidelines in diagnosing symptomatic bacteriuria in patients with atypical symptoms.

Aims & Methods

Our aims for this quality improvement project are:

1. To assess whether those patients treated for UTIs at Whipps Cross University Hospital were diagnosed in accordance with NICE and local guidelines, in particular focusing on populations where there is specific guidance such as females under 65 years of age and typical symptoms.
2. To determine the treatment prescribed was in keeping with local prescribing protocols.
3. To identify areas of improvement that would allow for more accurate diagnosis and management of UTIs, to aid the development of a guideline.

We carried out a retrospective audit of 720 patient records admitted to Whipps Cross University Hospital, East London, between January to March 2018, with a coded discharge diagnosis of UTI or sepsis. A total of 620 patients were included in the analysis. 100 patients were excluded either due to incorrect coding around patient information or diagnosis. Data was collected from these patient records including demographic features, LUTS, documented presence of a catheter, investigation findings such as urine dip, urine and blood cultures results, and data on antimicrobial treatment and duration. This data was compared to NICE and local guidelines for the diagnosis and management of UTIs.

RESULTS

A. Age of Patients Treated for UTI

B. Demographics of Patients Presenting with Altered Mental Status & Treated as UTI

DURATION OF ANTIBIOTICS IN CATHETERISED PATIENTS TREATED FOR UTI

PATIENTS WITH LTC TREATED FOR UTI WHO HAD CATHETER CHANGED

MOST COMMON ATYPICAL SYMPTOMS PRESENTING WITHOUT LUTS WHICH WERE TREATED FOR UTI, AND NUMBER WITH POSITIVE URINE DIPS

DISCUSSION

Diagnosing UTIs can be challenging. Guidelines such as NICE and SIGN can be used to aid this process but as shown in this review, the majority of patients are over 65 years of age and there are no specific guidelines for this age group. Asymptomatic bacteriuria is common, and can be found in up to 80% of institutionalised patients, again complicating the diagnostic process and therefore making a combination of symptoms and signs necessary to make the most accurate diagnosis possible. A negative urine dip can be useful in ruling an infection out.

In our review, the most common ‘atypical’ presentation was altered mental status, followed by decreased mobility or a fall. Of these patients, only a minority of them had LUTS documented and/or a positive urine dip, yet all the rest of them were subsequently treated for UTI.

Despite clear guidelines, only 17% of females were treated with a three day course of antibiotics, the majority receiving longer courses unnecessarily. Whilst the majority of males with a diagnosis of UTI had urine cultures sent, 45% were treated for UTI despite a negative urine dip, suggesting a possible alternative cause in a number of these patients. More than half of men were treated with less than 7 days antibiotics despite clear guidelines.

An area of higher adherence to guidelines was the changing of catheters for catheter associated UTI, however there was still room for improvement with this.

CONCLUSION & LIMITATIONS

The findings of this review illustrate the need for formularies which would provide guidelines based on current evidence for best practice in the diagnosis and management of adults with community acquired UTIs.

This was a retrospective study so is restricted by the information that was documented at the time on medical notes and discharge summaries. Details such as number of symptoms was also difficult as these were recorded inadvisable during an admission and therefore much of the data about antibiotic choice and duration was missing from such notes and paper drug charts were unavailable. Details about urine dip results were also variable, as urine were recorded electronically while others would be kept with the paper notes. Observations were not taken account of, so we were unable to differentiate those treated for empirical and those who were treated for sepsis.

REFERENCES
