 10.7861/fhj.7.1.s58

The management of urinary tract infections in a district general hospital – a closed loop service review and comparison with SIGN guidelines

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Introduction

Elderly patients with new onset of confusion or being 'off legs' is a common presenting complaint on the acute take. Urinary tract infections (UTI) are common in the elderly population, often a diagnosis is made based on a positive urine dipstick in the absence of urinary symptoms. However, these patients may actually have asymptomatic bacteriuria (AB).

The prevalence of AB in institutionalised women above the age of 65 have been reported to be as high as 57%.[1] Bacteriuria is not a disease, and treating it is not advised under the Scottish Intercollegiate Guidelines Network (SIGN) guidelines.[2] We looked to investigate the rate of over-diagnosing and over-treating patients with AB.

Method

A total of 50 female patients over 65 with a discharge diagnosis of UTI were analysed retrospectively. All had positive urine dips, no concurrent infection and without long-term catheters. We re-audited 25 patients after our interventions were in place for 5 months to evaluate the efficacy of our interventions.

Results

The primary objective was to investigate the rate of over-diagnosing and over-treating of patients with AB. Our secondary objective was to determine adherence to trust guidelines for the treatment of complicated and uncomplicated UTI.

We found 22% (11/50) of patients without any urinary symptoms or signs of infections (raised inflammatory markers, new confusion, non-mechanical falls or abnormal temperature) were inappropriately started on antibiotics. This clearly shows the inappropriate use of antibiotics. Of the 39 patients identified to have a UTI, 74.4% (29/39) of patients received the recommended antibiotic. However, only 27.6% (8/29) received it for the correct duration. This demonstrates poor adherence to local antimicrobial guidelines.

Following these findings, we worked with microbiology to produce a flow chart on how to manage patients with AB and UTI. We also presented in grand round to highlight our shortcomings.

After 5 months, we found no patients who did not have signs of urinary symptoms or signs of infections to have been inappropriately started on antibiotics. This shows a clear improvement from our previous findings. However, antibiotic compliance was still poor with only 12% (3/25) of patients receiving the correct antibiotic and none of them receiving it for the recommended duration.

Following the second cycle and analysis, we edited our original flowchart to target poor antibiotic adherence found in the repeat analysis. We made it more memorable by including a captivating title 'Think Nitro Bro!' We placed it in the doctor's office and in the mess for maximum exposure.

Conclusion

In summary, we demonstrated incorrect management of AB and UTI, which was addressed in the form of education and the production of a flowchart. This appeared to have reduced the over-diagnosing and over-treating of patients with AB, however incorrect antibiotic choice and treatment duration still remained a problem. We worked with pharmacy and microbiology to edit the first poster and address the poor compliance to local antimicrobial guidelines. Changes were made to the poster to make it more appealing for doctors to read and memorable. This will be audited in 5 months. ■

Conflicts of interest

None declared.

References

1 Nicolle LE, Mayhew WJ, Bryan L. Prospective randomized comparison of therapy and no therapy for asymptomatic bacteriuria in institutionalized elderly women. *Am J Med* 1987;83:27–33.

2 Scottish Intercollegiate Guidelines Network. *SIGN 88: Management of suspected bacterial urinary tract infection in adults*. Edinburgh: SIGN, 2012.

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