

Ahmed Al-Hayalee¹, Dr Elizabeth Cottrell^{2,3}, Dr John J Edwards^{2,3}

1. Keele Medical School, Keele University, Keele, Staffordshire, ST5 5BG, UK

2. Research Institute for Primary Care & Health Sciences, Keele University, Keele, Staffordshire, ST5 5BG, UK

3. Wolstanton Medical Centre, Newcastle under Lyme, ST5 8BN, UK

Introduction

- Increasing antibiotic resistance is a serious problem resulting from, in part, excessively liberal antibiotic use and stewardship by healthcare professionals. (<https://www.nice.org.uk/guidance/ng15>)
- Antibiotic resistance is proportional to antibiotic use, so reduced antibiotic use should combat antibiotic resistance.
- This audit was prompted by receipt of a Chief Medical Officer alert in a general practice which highlighted that antibiotic prescribing had risen by more than 4% in a year.

Aim

To establish and, if necessary, optimise appropriate of antibiotic prescribing for patients presenting with acute tonsillitis when compared against FeverPAIN criteria

Methods

- An electronic search of patient health records was conducted using the EMIS web report function to identify patients who presented with acute tonsillitis during the audit period (one month prior to search period).
- Read codes used in the search were those recommended by the Treat Antibiotics Responsibly, Guidance, Education, Tools (TARGET) campaign created by the Royal College of General Practitioners. (<http://www.rcgp.org.uk/clinical-and-research/resources/toolkits/target-antibiotic-toolkit.aspx>)
- Approximately one-third of identified patients were selected using a random number generator.
- Consultation notes were used to identify markers of quality care achievement:
 - Explicit use of FeverPAIN score. Additionally, FeverPAIN scores were calculated for patients using consultation data. If any of the FeverPAIN criteria was not commented on, it was assumed to be absent (e.g. no mention of lymphadenopathy, then it was assumed that this wasn't present).
 - Antibiotic use and, when used, antibiotic prescribed, its dose and duration. Antibiotic prescriptions were compared to NICE Clinical Knowledge Summaries (CKS) guidelines (<https://cks.nice.org.uk/sore-throat-acute>).
 - Record of the patient having been informed about the natural history of acute tonsillitis and the issue of antibiotic resistance.
- A re-audit was conducted one month after the actions prompted by the baseline audit were completed and used the same inclusion and exclusion criteria as the initial audit.

Results

Baseline

- Of 92 eligible patients, 32 were audited
- There was no explicit mention of FeverPAIN criteria in any consultation notes
- 10 patients (31%) were treated in accordance with NICE CKS guidelines
- Antibiotics were overprescribed, with 19 patients (59%) being given antibiotics immediately and only 13 (41%) not being given antibiotics
- Delayed scripts were not used
- There was no record of information about the natural course of acute tonsillitis or antibiotic resistance being given to patients

Actions taken to prompt change

- Results were discussed at a practice meeting and clinicians advised of Public Health England guidelines regarding FeverPAIN use, antibiotic prescribing and patient education
- Laminated FeverPAIN score cards were placed in each clinical room
- A protocol was also developed within EMIS Web to facilitate recording of FeverPAIN scores and provision of personalised TARGET patient information leaflets

Re-audit

- Of 63 eligible patients, 32 were audited
- Half of patients had an explicit record of their FeverPAIN score.
- Antibiotics were used more appropriately with 17 patients (77%) being treated in-line with CKS guidelines.
- In the 5 cases not treated in accordance with guidelines, antibiotics were prescribed when a delayed script or no antibiotics were recommended.
- Choice of antibiotic was correct in all cases.
- No patients were given information regarding antibiotic resistance.

	Target	Baseline (n=32)		Re-audit (n=22)	
		N	%	N	%
FeverPAIN Used	>80%	0	0%	11	50%
No antibiotic given	>60%	13	41%	10	45%
Back-up/delayed Abx given with advice about how to access	<40%	0	0%	2	9%
Immediate Abx given with advice on compliance	<20%	19	59%	10	45%
Management appropriate for clinical presentation?	100%	10	31%	17	77%
Advice given on natural history and average length of illness	100%	0	0%	--	--
Advice about managing symptoms incl. fever	100%	28	88%	--	--
Information about when to re-consult	100%	29	91%	--	--
Information about antibiotic use and resistance	100%	0	0%	0	0%
Antibiotics prescribed		n=19		n=12	
Abx Choice Correct	100%	17	89%	12	100%
Dose/Frequency Correct	100%	15	79%	12	100%
Course length correct?	100%	16	84%	8	67%

Table 1 – Audit Results

Discussion

- Antibiotic use decreased and use of the FeverPAIN tool increased with the actions taken.
- Recording of information provided was generally poor, it may be necessary to find ways to increase the ease of recording of information given to improve this.
- While antibiotic prescribing improved, excessively long courses of clarithromycin were prescribed (7 day courses rather than 5 day).
- Further prompts will be provided to increase FeverPAIN usage, to ensure appropriate clarithromycin prescription and to encourage patient education

EC and JJE are general practitioner partners working at the audited practice and they are National Institute for Health Research (NIHR) Clinical Lecturers in General Practice. The views expressed in this paper are those of the author(s) and not necessarily those of the NHS, the NIHR, or the Department of Health and Social Care.