

**4CPS-035 IMPACT OF ANTIBIOTIC STEWARDSHIP PROGRAMME (ASP) ON ANTIBIOTIC USE AND CLINICAL OUTCOMES IN PATIENTS HOSPITALISED WITH COMMUNITY-ACQUIRED PNEUMONIA (CAP): RETROSPECTIVE OBSERVATIONAL BEFORE-AFTER STUDY**

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10.1136/ejhp-pharm-2024-eahp.139

**Background and Importance** Community-acquired pneumonia (CAP) is still one of the leading causes of death worldwide. In our previous studies, the guideline adherence to national and international CAP guidelines in terms of agent choice was found to be poor. Implementation of the Antibiotic Stewardship Programme (ASP) aimed to improve the correct and responsible antibiotic use by encouraging guideline adherence.

**Aim and Objectives** This retrospective observational before-after study aimed to evaluate whether the ASP may improve guideline adherence, antibiotic exposure and clinical outcomes in patients hospitalised with CAP in Hungary.

**Material and Methods** The study was conducted at a Pulmonology Department of a tertiary care medical centre in Hungary. The ASP implementation consisted of written and published guidelines available to all professionals, continuous supervision and counselling service on antibiotic therapies. The intervention was performed by a multidisciplinary antibiotic stewardship team (AST) at an individual level, with the aim to ensure compliance with CAP guidelines. Overall guideline adherence (agent selection, route of administration, dose), clinical outcomes (length of stay-LOS, 30-day mortality), and antibiotic exposure were compared between the pre-intervention and ASP periods (both retrospective observational). Fisher's exact test and t-test were applied to compare categorical and continuous variables, respectively. Significant p values were defined as below 0.05.

**Results** Significant improvement in overall CAP guideline adherence (by 30.2%, from 46.6% to 76.8%,  $p=0.017$ ) and significant reduction in the total duration of antibiotic therapy (by 13.5%,  $7.58\pm 3.83$  vs.  $6.15\pm 3.72$  days,  $p=0.002$ ) were observed. Guideline non-adherent combination therapies with metronidazole decreased significantly by 28.1% (from 31.1% to 3.0%,  $p<0.001$ ). Antibiotic exposure decreased by 7.2% (from  $17.9\pm 10.64$  to  $15.47\pm 11.03$  DDD/patient,  $p=0.061$ ) and sequential therapy increased significantly by 10.5% (from 3.9% to 14.14%,  $p=0.01$ ). Moreover, ASP had benefits on clinical outcomes (LOS: decreased by 13.5%, from  $8.85\pm 6.1$  to  $7.09\pm 5.84$  days,  $p=0.016$ ; 30-day survival: increased by 5.9%, from 72.5% to 78.4%,  $p=0.711$ ).

**Conclusion and Relevance** Availability of written protocols on the ward and the continuous counselling service is crucial in optimising antibiotic use. Implementation of ASP led to a significant improvement in CAP guideline adherence and sequential therapy, that also entailed the significant reduction of total duration of antibiotic therapy, and length of stay.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

**Conflict of Interest** No conflict of interest.

**4CPS-036 EVALUATION OF THE DIAGNOSIS AND ANTIBIOTIC PRESCRIPTION PATTERN IN PATIENTS HOSPITALISED WITH URINARY TRACT INFECTIONS (UTIS)**

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10.1136/ejhp-pharm-2024-eahp.140

**Background and Importance** Urinary Tract Infections (UTIs) are common bacterial infections with non-negligible hospitalisation rate. The diagnosis of UTIs remains a challenge for prescribers and common source for misdiagnosis.

**Aim and Objectives** This retrospective observational study aimed to evaluate whether recorded diagnosis by clinicians and empirical antibiotic therapy met the European Association of Urology (EAU) guideline in patients hospitalised with a UTI.

**Material and Methods** The study was conducted at an internal medicine unit of a tertiary care medical centre in Hungary. Diagnosis was assessed based on the clinical presentation, physical examination, and laboratory (inclusive microbiological) results considering risk factors. Diagnosis was considered misdiagnosis when was not confirmed by clinical presentation or clinical signs and symptoms. Analyses for empirical antibiotic therapy were performed only for confirmed UTIs. Empirical treatment was considered guideline adherent when complying with the recommendations. Fisher's exact test and t-test were applied to compare categorical and continuous variables between groups. Significant p values were defined as below 0.05.

**Results** Out of 185 patients 41.6% ( $n=77$ ) have not met EAU diagnosis criteria, of which 27.6% ( $n=51$ ) were misdiagnosis and 14.1% ( $n=26$ ) were ABU (asymptomatic bacteriuria). The diagnosis of urosepsis recorded at admission (9.7%) was not supported in any cases neither by clinical nor by microbiological tests. The initial empirical therapies for UTI showed a relatively low rate (45.4%, 49/108) of guideline adherence regarding to agent selection. The most common guideline non-adherent therapies were combinations with metronidazole (16.7%, 18/108). Although dosage appropriateness assessments showed a higher guideline adherence rate (36.1%, 39/108), underdosing due to the higher body weight was relatively high (9.3%, 10/108). Overall (agent, route of administration, dose, duration) guideline adherence was found to be substantially low (10.2%, 11/108).

**Conclusion and Relevance** We found a relatively high rate of misdiagnosed UTIs. Written protocols on the ward may be crucial in reducing misdiagnosis and in optimising antibiotic use.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**

**Conflict of Interest** No conflict of interest.