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Treatment of community acquired pneumonia: Assessment of antibiotic prescription

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Background: Community acquired pneumonia (CAP) affects 0.5-1% of UK adults annually, more than half of them are aged over 84. Hospitalized patients have 5-14% mortality, with annual costs exceeding £400 million. The British Thoracic Society (BTS) have devised guidelines for CAP management. This involves documentation of severity using CURB65 score, and antibiotic prescription according to this score.

Aim: To assess compliance with BTS guidelines (2009) in the Elderly Care ward of the Queen Elizabeth Hospital.

Methods: Notes of geriatric patients treated for CAP during July, August and September were retrospectively studied for CURB65 score, antibiotic treatment, treatment duration and time before IV medication changed to oral (if applicable). The PICS online system was used as confirmation, and to identify if a prescribing note (for indication) had been issued. Data was analyzed on Microsoft Excel.

Results: CURB65 recorded in 50% (24/48). Treatment was appropriate to the score in 54% of cases (no significant differences between scores, p=0.2393). Prescription note compliance was 69% and the average treatment duration was 6.21 (±0.86) days.

Conclusions: CURB65 was poorly documented in CAP. When documented, compliance with guidelines was poor. Prescriptions notes were absent in medical notes, and require improvement on PICS. Increased staff training for prescription notes and re-audit has been planned.

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Characterization of mutations causing rifampicin and isoniazid resistance of *Mycobacterium tuberculosis*

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Objective: To characterize mutations causing rifampicin and isoniazid resistance of *M. tuberculosis* in Syria.

Methods: 69 rifampicin resistant (RIFr) and 72 isoniazid resistant (INHr) isolates were screened for point mutations in hot spots of the *rpoB*, *katG* and *inhA* genes by DNA sequencing and real time PCR.

Results: Of the 69 RIFr isolates, 62 (90%) had mutations in the rifampin resistance determining region (RRDR) of the *rpoB* gene, with codons 531 (61%), 526 (13%) and 516 (8.7%) being the most commonly mutated. We found two new mutations (Asp516Thr and Ser531Gly) described for the first time in the *rpoB*-RRDR in association with rifampicin resistance. Only one mutation (Ile572Phe) was found outside the *rpoB*-RRDR. Of 72 INHr strains, 30 (41.6%) had a mutation in *katG* codon 315 (with Ser315Thr being the predominant alteration), and 23 (32%) harbored the *inhA*−15C<T mutation. While the general pattern of *rpoB*-RRDR and *katG* mutations reflected those found worldwide, the prevalence of the *inhA*−15C<T mutation was above the value found in most other countries.

Conclusion: Emphasizing the great importance of testing the *inhA*−15C<T mutation for prediction of isoniazid resistance in Syria. Sensitivity of a rapid test using real time PCR and 3'-minor groove binder (MGB) probes in detecting RIFr and INHr isolates was 90% and 69.4%, respectively. This demonstrates that a small set of MGB-probes can be used in real time PCR in order to detect most mutations causing resistance to Rifampicin and Isoniazid.

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