Results To date, 10 healthy controls (mean age 53 weeks) and 2 infants with CF (mean age 55 weeks) have successfully undergone LCI measurement using this method. Mean LCI in controls was 6.62 (range 5.79–7.91). Mean within-subject CV% was 5.9%. Mean LCI in infants with CF was 7.63 (CV 5%).

Conclusion Preliminary data suggest this is a feasible and reproducible method of performing LCI in infants. Results in both infants with CF and controls fall within ranges predicted by the respiratory mass spectrometer[2] and within accuracy limits set by international guidelines. This could provide a more accessible alternative to current technologies, enabling this test to be offered in more centres.

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P259 COST ANALYSIS OF IMPLEMENTING A PE PATHWAY INCORPORATING 3-LEVEL WELLS SCORING, PERC RULES AND AGE-ADJUSTED D-DIMERS

A Mahmood, C Durrans, S Naik, M Anwar. *Princess Alexandra Hospital, Harlow, UK*

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Background Acute pulmonary embolism (PE) is a common presentation. Currently NICE recommends 2-level Well scoring, which may over-investigate patients leading to unnecessary anticoagulation and contrast-related risks and significant financial costs. We investigated whether further risk stratification using a combination of 3-level Wells scoring, PERC rules and age-adjusted D-dimers could minimise costs and enhance patient safety.

Methods Retrospective analysis of patients who underwent CTPA and had complete data between September 2014 and August 2015 was carried out. Wells scores, PERC scores and age-adjusted D-dimers were calculated and compared against CTPA findings.

Results Out of 1174 patients who underwent CTPA, 1158 had complete data set. Application of PERC rules to low-risk patients (Wells score 0–1; n = 311, 27%) would have avoided 64 CTPAs, but missed 3 PEs, with a 95% sensitivity (95% CI: 0.85–0.97), 24% specificity (95% CI: 0.19–0.30), and avoided 56 D-dimers.

For intermediate-risk patients (Wells score 2−7), age-adjusted D-dimers would have avoided 265 CTPAs but missed 32 PEs, with an 81% sensitivity (95% CI: 0.74–0.86), 50% specificity (95% CI: 0.45–0.55). High-risk patients should proceed directly to CTPA.

The combination of 3-level Wells scoring, PERC rules, and age-adjusted D-dimers would have avoided 450 CTPAs (39%) but missed 39 PEs (8%), with an estimated financial saving of at least £255,150 (local CTPA tariff £567). Non-age adjusted D-dimers would have reduced this avoiding 132 CTPAs (11%), and missing only 7 PEs (5%). Further saving would have resulted from avoiding D-dimer testing in low risk PERC negative patients, and high risk patients.

Conclusion The use of a PE algorithm incorporating multiple clinical assessment tools results in a pathway which can help rationalise the number of CTPAs performed and D-dimers requested, without significantly increasing the proportion of missed PEs.

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Pneumonia and Bronchiectasis: Why Fore and Where to

P260 THE UTILITY OF ATYPICAL PNEUMONIA SCREENING IN COMMUNITY ACQUIRED PNEUMONIA: THE LEICESTER EXPERIENCE

JA Bennett, S Robinson, R Rupesinge, J Skeemer, D Jenkins, G Woltmann. *Glenfield Hospital, Leicester, UK*

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Introduction Microbiological testing for atypical pathogens in patients attending hospital with community acquired pneumonia (CAP) is recommended for moderate or severe disease (NICE CG191 2014) or for patients failing to respond to treatment. Although it is unclear whether testing improves outcome even in severe disease, many patients have such tests performed regardless of severity. Having revised our pathways for assessment, treatment and documentation of patients with community acquired pneumonia we hypothesised that testing for atypical organisms has no impact on treatment decisions for these patients.

Method We retrospectively identified all patients with a diagnosis of CAP who had investigations for atypical microbiology, September 2013 to May 2014, via our pneumonia database. We assessed CURB-65 score, atypical microbiology results and laboratory costings. The notes for all patients with positive atypical microbiological results were reviewed.

Results 343 patients were identified for whom 329 were analysed.

329 patients generated 991 samples in total (825 serum, 165 urine antigen, 1 urine virology) at a laboratory cost of £5,594.29.

Five samples were positive, one for urine legionella antigen.

Greater than 50% of serological samples had no second (paired) sample sent.

There was no correlation between CURB-65 scores and requesting of atypical microbiology requesting.

One patient with positive legionella antigen had prolongation of treatment from 5 days to 14 days.

No other patients had treatment changes as a consequence of atypical microbiological testing.

Conclusion Atypical microbiological testing, in hospital, for CAP patients is commonly performed at significant cost with minimal clinical utility. We recommend that non-selective serological sampling is abandoned. The impact of legionella urinary antigen testing on outcome in moderate and severe cases requires a prospective study.

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Abstract P260 Table 1 Results by CURB score

Score	<1/16	1/16	1/32	1/64 (+ve)	1/128 (+ve)	Not detected (in urine)	Detected (in urine)	No result or comment	Total
CURB 0	65	5	5	0	0	17	0	12	104
CURB 1	57	5	5	1	0	19	0	9	96
CURB 2	72	13	2	0	0	20	0	13	120
CURB 3	62	12	3	0	0	15	0	11	103
CURB 4	14	0	2	0	0	5	0	3	24
CURB 5	3	0	0	0	0	0	0	0	3
Not recorded	305	49	15	2	1	86	1	61	520
Not in database	14	3	0	0	0	2	0	2	21
TOTAL	592	87	32	3	1	164	1	111	991

P261 DEVELOPMENT OF AN EXTENDED SPECIFICITY MULTIPLEX IMMUNOASSAY USING HUMAN MONOCLONAL ANTIBODIES FOR DETECTION OF STREPTOCOCCUS PNEUMONIAE SEROTYPE-SPECIFIC ANTIGEN IN URINE

[1]S Eletu, [1]C Sheppard, [2]E Thomas, [3]K Smith, [1]D Litt, [1]N Fry. *[1]Respiratory and Vaccine Preventable Bacterial Reference Unit, London, UK; [2]Department of Biology, University of Washington, Seattle, USA; [3]Oklahoma Medical Research Foundation, Oklahoma City, USA*

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Streptococcus pneumoniae (pneumococcus) is a major cause of morbidity and mortality worldwide. To date 93 capsular serotypes of pneumococcus have been described, but many of these are rarely found in disease. Currently vaccines are targeted at between 7 and 23 of the most common circulating serotypes. However, with the uptake of any pneumococcal serotype based vaccine the risk of serotype-replacement and an increase in disease caused by non-vaccine serotypes remains. This highlights the importance of determination of the serotype responsible for the infection.

The diagnosis and subsequent serotype surveillance of pneumococcal infection relies heavily on culture techniques which are known to be insensitive, particularly in cases of non-invasive disease. There are, therefore, potentially many pneumococcal disease cases where an isolate for serotyping is never obtained. Urine antigen detection using methods such as BinaxNOW (Alere) can be used to confirm pneumococcal infection in the absence of an isolate, but does not give serotype information.

Previously described serotype-specific urine assays covering mainly conjugate vaccine serotypes, give no/very little information about circulating non-vaccine serotypes and are currently only available in one or two specialist laboratories.

Our laboratory has just completed initial development of an extended range antigen capture Luminex based assay to detect *S. pneumoniae* serotype specific antigen in urine samples using fully human human, full length monoclonal antibodies. The assay covers 24 different serotypes/groups plus C-polysaccharide, including all the currently available conjugate vaccine and 23-valent polysaccharide vaccine types plus some cross-reactive serotypes.

We have validated the assay for sensitivity, specificity and reproducibility using spiked urine samples and a panel of BinaxNOW tested clinical urine specimens, some of which were from patients from whom a pneumococcal isolate was also cultured. The results for the validation will be presented.

This assay can be extended to testing other clinical samples such as cerebrospinal and pleural fluids and with development has the potential to greatly improve serotype-specific surveillance in the many cases of pneumococcal disease from which a culture is never obtained.

P262 THE RELATIONSHIP BETWEEN PENETRATION OR ASPIRATION OF ORAL INTAKE AND CHEST INFECTIONS IN ATAXIA TELANGIECTASIA PATIENTS

CBR Mossey-Gaston, SG Ellum, AC DeSousae, N Oscroft, P Hales, H Baxendale. *Papworth Hospital NHS Foundation Trust, Papworth Everard, Cambridge, UK*

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Introduction and objectives As part of the care of Ataxia Telangiectasia Patients, a baseline swallow profile is obtained using a videofluoroscopy. It was observed that penetration or aspiration of oral intake did not appear to have a direct link to chest infections in these patients. The authors conducted a pilot study, analysing retrospective data to explore this observation further.

Methods All variant AT patients who attended a multi-disciplinary (MDT) annual review appointment between 01/2013–11/2015 and underwent a videofluoroscopy were included. The patient was ranked on the Penetration Aspiration Score (PAS) from the videofluoroscopy. Retrospective data of the frequency of chest infections requiring treatment with antibiotics in the last 12 months was collected from the annual assessment reports in the medical notes.

Initially, 37 patients were included, this was reduced to 30 as 7 videofluoroscopies were not sufficient for calculating the swallow trigger delay. Data was analysed using excel and xlstat (standard descriptive tests and Spearman's) to evaluate any correlation between aspiration or penetration and number of chest infections.

Results With a confidence interval of 95%, there was a negative correlation of rs 0.079 (p-value < 0.0001) indicating a very weak correlation. The number of chest infections data was significantly skewed at a result of 2.643. This may be due to the small sample size.

Conclusions This data suggests there is no correlation between aspiration or penetration and the chest infections experienced by AT Patients. However, this was a small sample due to the rarity of the genetic disorder. A larger sample either through increased length of time that the data is collected or an international study could help provide greater insights into the correlation between aspiration or penetration of oral intake and the number of chest infections experienced.

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P263 DOES THE USE OF LACTATE IMPROVE THE CURB-65 SCORE IN COMMUNITY ACQUIRED PNEUMONIA PATIENTS ADMITTED TO A DISTRICT GENERAL HOSPITAL?

TW Nicholson, S Connaire, V Kronsten, S Black, JES Park. *Department of Respiratory Medicine, Royal Berkshire Hospital, Reading, UK*

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