P43 FACTORS INFLUENCING LENGTH OF CHEST DRAIN INSERTION IN CHILDREN WITH EMPYEMA

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Introduction Many factors might influence length of chest drainage (LOCD) when managing parapneumonic effusions/empyema including effusion size, septations, extent of pneumonia, presence of air leaks, pathogen virulence, fibrinolytic therapy with urokinase and local policies. UK guidelines recommend using the same fixed volumes for infants and for all children older than a year regardless of size. This preliminary retrospective survey was undertaken to determine whether there may be a signal to suggest an optimal urokinase volume based on weight which might warrant a controlled study.

Objectives To investigate clinical factors that affect length of chest drain insertion (LOCD) in children with empyema and to examine if there is an optimal urokinase dosing based on patient's weight would affect the LOCD.

Methods We conducted a retrospective review of clinical data from 52 children with empyema admitted to our centre between January 2015-December 2016. Chest drains were in place for a range of 2 to 12 days with a median of 5 days. We conducted a comparison of these data between the group of patients who required chest drain insertion for ≤ 5 days and those ≥ 5 days. We also grouped the patients into two levels of urokinase dose based on patients weight to create a frequency table and eventually to look if a certain dose is associated with a shorter LOCD.

Results The median LOCD insertion in our group was 5 days. Patients with a longer LOCD showed a trend to be younger and had a higher WCC, but this was not statistically significant. There were no statistically significant difference in the dose/kg of urokinase and LOCD.

Conclusion Our study did not show whether a certain urokinase dose based on weight would affect the LOCD. There were no other clinical indicators among our population that can predict the LOCD.

Abstract P43 Table 1

	LOCD ≤ 5 days n. (28)	LOCD > 5 days n.(22)	P value
Gender (Male)	12	11	0.77
Age (Mean)	5.36	2.90	0.38
O2 requirement	19	17	0.58
CRP	231 (43–346)	241 (96–440)	0.54
WCC	16.35 (0–59)	20.18 (7.99–96.09)	0.22
US fluid depth (mm)	34.6 (18.9–85)	30 (16–74)	0.37
Urokinase U/Kg	2278 (404–3922)	2667 (317.5–5405)	0.42
Frequency of patients on low dose Urokinase (<2000 u/kg)	9	9	0.76
Frequency of patients on high dose Urokinase (≥ 2000 u/kg)	18	13	0.76

P44 THE UTILITY OF BEDSIDE LUNG ULTRASOUND IN THE ASSESSMENT OF EMERGENCY MEDICAL ADMISSIONS PRESENTING WITH ACUTE DYSPNOEA: A PROSPECTIVE ANALYSIS

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Introduction Lung Ultrasound (LUS) is emerging as a potentially useful bedside investigation to aid assessment of acute dyspnoea. However, little UK based data exists regarding the impact of LUS when performed over and above standard care in subjects presenting to hospital with acute dyspnoea.

Methodology Subjects presenting with acute dyspnoea as Emergency Admissions to 2 University Hospitals were evaluated within 24 hours of admission by a Respiratory Physician with Level 2 Ultrasound competency. A chest radiograph and appropriate blood tests had been performed beforehand. In all cases, the precise aetiology of the subject's dyspnoea remained uncertain following review of the patient/existing investigations by the Respiratory Physician but prior to bedside LUS being performed.

Results 80 subjects (Age 68 (SD 17) years; 43% Male) were included with 77 surviving to discharge. LUS findings comprised Diffuse Bilateral B lines suggestive of Acute Heart Failure (AHF)/Interstitial Syndrome in 29% (23/80), Consolidation in 23% (18/80), A lines/"normal" in 24% (19/80), unilateral focal B lines in 21% (17/80), unspecified sub-pleural focus (1/80), small pleural effusion (1/80) and loss of lung sliding/lung point indicative of pneumothorax (1/80). In the 18 cases of consolidation and the 23 cases of AHF identified on LUS, only 39% (7/18) and 30% (7/23) of the plain chest radiographs respectively were subsequently reported by a radiologist as showing any parenchymal abnormalities. In 29% (23/80) cases, the addition of LUS was felt to have given a specifically alternative diagnosis to the patient's presentation not previously considered (7/23 Pneumonia, 12/23 AHF, 2/23 Abdominal Sepsis, 1 Pneumothorax, 1 Pulmonary embolism) whilst in a further 44% (35/80) cases, LUS was felt to have strengthened the certainty of an existing differential diagnosis considered prior to LUS being performed. The diagnosis made post LUS was found to be concordant with the subject's "Discharge Diagnosis" in 83% (66/77) cases.

Conclusion Use of bedside LUS as an adjunct to standard care in the assessment of acute dyspnoea often resulted in either the consideration of an alternative diagnosis to account for a patient's symptoms or offered clinicians greater certainty on an existing differential diagnosis thus better directing management.

Cellular insights into lung injury repair

P45 MECHANISMS OF REGENERATION: RETINOIC ACID ACTS VIA THE ENDOTHELIUM TO DRIVE HUMAN LUNG REPAIR

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