Abstract S75 Table 1

Median (Range)	No Redo	Redo	p-value
Number	40(22M:18F)	18(11M:7F)	
Age (Year)	68(43-82)	69(57-80)	0.2605
BMI (Kg/m ²)	22(13-37)	25.4(16.1-34.2)	0.1652
LUL:LLL	23:10	5:5	NS
RUL:RLL	5:2	4:4	NS
Upper:Lower	28:12	9:9	0.237
FEV1 (%predicted)	28.8(13.8-58)	35.3(17-62)	0.0351
DLCO (%predicted)	37.8(10.7-84)	38(19-61)	0.4346
RV (%predicted)	209(43.2-350.6)	211(130-289)	0.1750
Fissure Integrity			
Target:Non-Target Lobe Volume Ratio	1.12(0.6-2.22)	0.96(0.48-1.56)	0.1429
Target:Non-Target Lobe Perfusion Ratio	0.4(0-1.5)	0.32(0.19-0.91)	0.2214
Target:Non-Target Lobe Emphysema Severity (Voxel Density <910 HU)	1.25(0.67-6)	1.23(0.83-2.86)	0.3494
Target:Non-Target Lobe Emphysema Severity (Voxel Density <950 HU)	1.61(0.55-26.5)	1.69(0.75-4.8)	0.2492
Pathogenic Bacteria Post-Initial EBV	3	2	NS
Pneumothorax Post-Initial EBV	17	2	NS

S76 CHEST TRAUMA: AN EXPERIENCE OF A RESPIRATORY SUPPORT UNIT WITH LEVEL 2 CARE IN THE NORTH EAST OF ENGLAND

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Introduction Falls cause 75% of trauma in patients above 65 years of age and thoracic trauma is the second commonest injury; rib fractures are the commonest thoracic injury. There is wide variation in care. Older trauma patients are less likely to have trauma assessments. Rib fractures carry up to 12% mortality with up to 31% developing pneumonia.¹ The number of fractures correlates with morbidity. Northumbria Healthcare has a team of respiratory consultants, physiotherapists, specialist nurses and anaesthetists for rib fracture management on a respiratory support unit.

Methods With Caldicott approval, basic demographics and clinical outcomes of patients admitted with thoracic trauma between Aug 20-Apr 21 were analysed. Descriptive statistical methodology was applied.

Results 119 patients were identified. Mean age was 71.1 years (range 23–97). 53 were male, 66 female. Mechanism of injury were falls from standing (65), falls down stairs/bed or in the bath (18), ladders (4), cycling (12), assault (3), road accidents (8) and 9 others (for example off horses). LOS was 7.3 days (range 1–54). 85 patients had more than 1 co-morbidity. 26 had a full trauma assessment and 75 had pan CTs. Mean number of rib fractures was 3.6. 31 (26%) had a pneumothorax and/or haemothorax. 18 chest drains were inserted (all small bore) and 1 needle aspiration done. No cardiothoracic input was required. Isolated chest trauma was present only in 45 patients. All had pain team review, 22 erector spinae catheters were inserted with 2 paravertebral blocks. 82 patients did not require oxygen, 1 required CPAP and 1 HFNC. 7 needed intensive care transfer. 20 (17%) developed

pneumonias. 16 (14%) deaths occurred within 30 days (1 heart failure and cancer progression, 2 Covid and 14 pneumonias) – all were in those with falls from standing. There was no correlation between number of fractured ribs, length of stay and mortality.

Conclusions High level care for thoracic trauma can be performed by the respiratory team with analgesia managed by the pain team. 42% of pneumothoraces/haemothoraces were observed. Falls from standing are associated with significant mortality and morbidity. The service is now complemented by a frailty assessment service.

REFERENCE

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S77 THE EFFECT OF SURGERY ON LUNG FUNCTION IN PATIENTS WITH IDIOPATHIC SCOLIOSIS

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Introduction Idiopathic scoliosis, the most common form of scoliosis, results in an abnormal lateral curvature of the spine. It typically affects children aged 10–16 and can result in pain and reduced respiratory function largely due to a restrictive lung defect. Treatment can involve bracing and surgical procedures and it is currently unclear how these treatments affect lung development.

Methods We performed lung function studies on 26 children with idiopathic scoliosis before and at 1–3 years after spinal surgery. Mean height for age was used to calculate lung function scores instead of measured height due to the effects of

scoliosis on measured height. Standard deviation score calculated from the Global Lung Initiative (GLI 2012) data was used to identify change.

Demographic data including date of birth, postcode, gender, date of surgery, height prior to surgery, Cobb angle, and the vertebrae involved in surgery was collected.

Results Children with scoliosis have reduced forced expiratory volume in 1 second (FEV1) and reduced forced vital capacity (FVC), with median Z scores of -1.5 and -1.1 respectively. Lung function undertaken between two and three years after surgery showed an absolute improvement, but no change in Z score, suggesting some lung function may be permanently lost despite the skeletal correction.

Conclusion Scoliosis surgery can halt the decline in lung function but does not result in improved lung function at 1–3 years post-surgery.

Under pressure: an update in pulmonary vascular disease

S78

PREDICTING POSTCAPILLARY PULMONARY HYPERTENSION: VALIDATION OF THE H2FPEF AND OPTICS SCORES

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Background Distinguishing pulmonary arterial hypertension (PAH) from postcapillary pulmonary hypertension (PH) is crucial yet can be challenging. The H2FPEF and OPTICS scores have been proposed as predictors of an elevated pulmonary artery wedge pressure, in order to inform whether to proceed with further investigations for PH, including right heart catheterisation. These scores include routinely available information including age, comorbidities and transthoracic echocardiogram and electrocardiogram indices. The aim of this study was to externally validate the H2FPEF and OPTICS scores for use in vetting new PH referrals.

Methods A retrospective analysis of was undertaken of all patients who were referred to a tertiary PH centre in Scotland between 2016 and 2020. Patients were included if they have undergone diagnostic admission for PH, including right heart catheterisation, and were subsequently diagnosed with idiopathic PAH, heritable PAH, pulmonary veno-occlusive disease or postcapillary PH. Records were screened for components

of the scores, which were calculated for each patient and compared to the post-investigation diagnosis as judged by multidisciplinary consensus. A H2FPEF score of ≥ 6 and an OPTICS score of ≥ 104 were used as thresholds for predicting postcapillary PH.

Results 107 patients with precapillary pulmonary hypertension and 86 patients with postcapillary pulmonary hypertension were included. Retrospective application of the OPTICS score demonstrated that pre-test scoring would detect 28% of cases with postcapillary pulmonary hypertension (sensitivity 0.28) yet at the cost of misdiagnosing 4% of patients with PAH as postcapillary PH (specificity 0.96). The H2FPEF score had a far greater sensitivity (0.70) yet reduced specificity (0.91), implying 9% of PAH cases would be misdiagnosed. Pyramid charts for both scores are shown in figure 1. Receiver operator curve analysis demonstrated an area under the curve of 0.82 for the OPTICS score and 0.85 for the H2FPEF score.

Conclusion This study further demonstrates the OPTICS scores ability to non-invasively detect between 1 in 3 and 1 in 4 cases of postcapillary pulmonary hypertension whilst maintaining a low false positive rate. The H2FPEF score had a greater sensitivity, yet crucially a lower specificity and hence a higher risk of misdiagnosing true PAH.

S79

SELEXIPAG TITRATION AND DOSING PATTERNS IN PATIENTS WITH PULMONARY ARTERIAL HYPERTENSION (PAH) IN A REAL-WORLD CLINICAL SETTING: INSIGHTS FROM THE EXPOSURE STUDY

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Selexipag is an oral IP prostacyclin receptor agonist approved for the long-term treatment of pulmonary arterial hypertension (PAH) in adults with WHO FC II/III symptoms. Selexipag is administered twice daily (b.i.d) and titrated to the patient's highest tolerated dose. In the GRIPHON trial, treating patients with an individualized dose, identified during a 12-

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