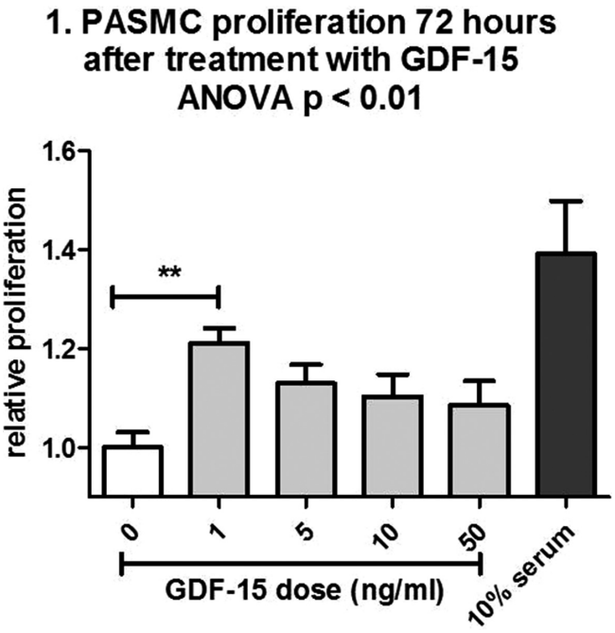
Results GDF-15 mRNA and protein levels were raised in the lung homogenates of the MCT rat compared to controls ($p < 0.05$). Immunohistochemistry revealed GDF-15 was localised in the endothelial cells and to a lesser extent in the PASMCs of these animal. GDF-15 levels in the serum of the MCT treated rats was higher than that in those treated with vehicle control (771 ± 345 vs. 411 ± 305, $p < 0.05$). Serum GDF-15 was correlated with RV/LV+S weight in the MCT treated group (Pearson $r = 0.66$, $p < 0.05$). Immunohistochemistry also revealed an increase of phospho-TGFβ activated kinase 1 (TAK1) in PASMCs of the MCT rat. In HPASMCs GDF-15 (1 ng/ml) treatment resulted in an increase in proliferation over baseline at 72 h (Figure 1). GDF-15 was also able to induce phosphorylation of TAK1 in HPASMCs.



Abstract P268 Figure 1

Conclusions GDF-15 is over-expressed in the lung vasculature of MCT rats, mimicking human disease. GDF-15 was associated with the degree of right ventricular hypertrophy in these animals. GDF-15 downstream signalling molecule phosphorylated TAK-1 is present in increased levels in the vasculature of the MCT rat. *In vitro* GDF-15 treatment caused proliferation of HPASMCs and activation of TAK-1. Further investigation of this pathway is required to determine its relevance to human disease.

P269 PERIOPERATIVE OUTCOMES IN PATIENTS WITH PULMONARY HYPERTENSION UNDERGOING NON-CARDIAC NON-OBSTETRIC SURGERY IN A DESIGNATED UK PULMONARY HYPERTENSION CENTRE

RJ Hewitt, K Dimopoulos, D Alexander, TC Aw, S Finney, R Alonso-Gonzalez, C Harries, L Parfitt, J Wort, L Price. *Royal Brompton & Harefield NHS Foundation Trust, London, UK*

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Introduction and objectives Patients with pulmonary hypertension (PH) represent an extremely high-risk surgical group, with previous reported mortality 7–18%, and predicting perioperative risk is difficult. The aim of this study was to characterise a current cohort of patients with pulmonary hypertension undergoing surgery in a National UK Designated PH centre and to determine predictors of adverse events.

Methods Consecutive patients with PH undergoing non-cardiac, non-obstetric surgery were identified by matching theatre and PH databases between 1st April 2008 and 1st April 2015. Demographics, recent echocardiogram, right heart catheterisation, B-natriuretic peptide (BNP), six-minute walk test (6MWT) and World Health Organisation functional class (WHO-FC) on last clinic visit was recorded. Anaesthetic and perioperative details; post-operative management, short-term morbidity and 28-day outcome were recorded. Data are mean±SD or median (range).

Results 37 procedures requiring anaesthesia were identified in 32 patients with PAH (7 idiopathic PAH, 1 PVOD, 24 CHD-PAH, 4 CTD-PAH) and 1 CTEPH. Average age was 44.4 ± 13 years, 27(84%) were female. Baseline preoperative WHO-FC was II (3, 9%), III (28, 88%), IV (1, 3%). Baseline 6MWT distance was 317 ± 68 m; BNP 200 (12–2027) ng/L; RV systolic pressure (RVSP) 85 ± 16 mmHg, tricuspid annular planar systolic excursion (TAPSE) 18 ± 7 mm. Cases including oesophagogastroscopy ($n = 4$), dental extraction ($n = 8$) under general anaesthesia (GA) were classified as minor; 6 (16%) including mastectomy, laparotomy and fasciotomy as major surgical procedures. Almost all (95%) were performed under GA; most were elective procedures and were monitored on the high dependency or intensive care unit post-operatively. Cardiovascular perioperative complications occurred in 6 cases (16%) including death in 2 patients (5.4%) in the days following surgery, in both cases related to PH crises, resulting in right ventricular (RV) failure. Baseline parameters of RV function including RVSP, TAPSE and the presence of a pericardial effusion were associated with adverse events.

Conclusion Perioperative mortality in patients with PH remains high, even in the current era. If surgery is deemed essential, PH centres with experts in cardiothoracic anaesthesia and ICU should be involved in preoperative planning with the PH multidisciplinary team guiding appropriate selection of patients, considering pulmonary haemodynamics and indices of RV function, as well as surgical factors.

P270 IDENTIFYING THE OPTIMAL D-DIMER CUT OFF VALUE FOR RULING OUT PES IN AN AMBULATORY CARE SETTING

FA Khan, K Ryanna, E Bailie, Y Vali. *Glenfield Hospital, Leicester, UK*

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Introduction Patients attending the ambulatory pulmonary embolism (PE) clinic at the Glenfield Hospital are risk stratified into low, intermediate and high risk based on the BTS scoring.[1] Those with a low or intermediate pre-test probability go on to have a microlatex D-dimer assay and if this is greater than 0.5 ug/mL, imaging in the form of CTPA or VQ scan is carried out.

It has been suggested that using a higher cut off value of D-dimer may improve specificity without affecting sensitivity for a PE.

Methods Data was collected for 2139 consecutive patients who presented to the ambulatory PE clinic between June 2010 and Dec 2014. For each of these patients, age, BTS clinical probability, D-dimer results and final diagnosis was recorded.