

Aims and objectives To investigate the feasibility of using community-based pulmonary rehabilitation (CBPR) programmes for patients with pulmonary hypertension (PH).

Methods Patients attending a PH Specialist Centre who were established on targeted drug therapy for at least 3 months, were seen by a physiotherapist specialising in PH. Functional ability, levels of physical activity, limitations and goals were identified, and rehabilitation potential was clinically assessed. Suitable patients were referred for CBPR and follow up phone calls were made to monitor progress.

Results Of 151 patients assessed by the specialist physiotherapist: 44% (n=66) accepted referrals to CBPR, 6% (n=9) declined. 50% (n=76) were considered unsuitable for CBPR and offered alternative supportive or therapeutic interventions.

Of 66 patients referred for CBPR (55 Pulmonary Arterial Hypertension, 7 Chronic Thromboembolic PH, 4 other PH), within 6 months of referral: 38% (n=25) had completed their rehabilitation, 11% (n=7) had started rehabilitation and were ongoing, while 11% (n=7) were waiting to start. 22% (n=17) withdrew from rehabilitation before completion. 9% (n=7) passed away before starting rehabilitation and 4% (n=3) were lost to follow up. Waiting times from referral to starting CBPR ranged from 1 month to 10 months, with a mean of 4 months.

No adverse events were reported by patients or therapists conducting rehabilitation.

Conclusions Community-based pulmonary rehabilitation is feasible in patients with PH with high levels of uptake by patients and no significant adverse events reported. Lengthy waiting times to start CBPR are common, and their impact on completion of rehabilitation programmes warrants further investigation. Further work is required to assess the efficacy and cost effectiveness of CBPR in patients with PH.

P19 DOES SIMPLIFIED WELL'S SCORE COMBINED WITH AGE-ADJUSTED D-DIMER REDUCE INAPPROPRIATE CT PULMONARY ANGIOGRAM AND INCIDENCE OF CONTRAST INDUCED NEPHROPATHY?

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Background Pre-test probability testing is essential for diagnosis of pulmonary embolism (PE) and to limit undue CT pulmonary angiogram (CTPA). There is limited data on combination of Simplified Well's score (SWS) with age-adjusted d-dimer (AAD).

Aim To determine impact of SWS and AAD on appropriateness of CTPA and incidence of contrast induced nephropathy (CIN).

Methods Retrospective analysis of consecutive patients undergoing CTPA at University Hospitals of North Midlands from 01/05/2017 – 31/08/2017. SWS and AAD were calculated retrospectively to compare their performance with original Well's score (OWS) and d-dimer. CIN was defined as per Guidelines (KDIGO).

Results 310 patients had CTPA during the specified period of which 83 (26.7%) had PE. d-dimer had a sensitivity of 97.1%, specificity 17.9% and negative predictive value

(NPV) 93.7%. The proportion of confirmed PE were 8/62 (12.9%) in low, 35/215 (30.2%) in intermediate and 10/33 (30.3%) in high probability of three-level OWS. AAD calculated on patients >50 years of age (n=198) had sensitivity of 86.5%, specificity 61% and NPV 86.9%. The proportion of confirmed PE patients were 12/114 (10.5%) in PE unlikely and 72/196 (36.7%) in PE likely category of SWS. AAD increased the specificity of d-dimer significantly and 53 CTPA (17.1%) could have been avoided by using AAD cut-off. 18 patients (5.8%) developed CIN, of which 2 (11.1%) could have been prevented by using the AAD cut-off.

Conclusion OWS and SWS have comparable performance but SWS is preferable due to its practicality. AAD improves the specificity while retaining sensitivity of d-dimer and prevents inappropriate CTPA and CIN.

P20 SCREENING FOR OCCULT MALIGNANCY FOLLOWING UNPROVOKED PULMONARY EMBOLISM

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Introduction Unprovoked pulmonary embolism (PE) has a well-documented association with occult malignancy, yet the incidence of malignancy and how to screen for it remain a topic of considerable debate. We set out to identify the proportion of patients who developed cancer within one year following unprovoked PE at our institution, and the number of cases identified on screening.

Methods We retrospectively interrogated a prospectively maintained database of patients attending the PE clinic at our institution, in order to identify those diagnosed with unprovoked PE between September 2011 and December 2015.

Results We identified 207 patients (92 women) of mean age 63 years. 54%, 34%, and 12% had a low-, intermediate- and high-risk PE, respectively. 17 (8%) patients were found to have cancer within one year, of which 12 (71%) were discovered on initial screening. The commonest cancers were prostate (six), colon (three) and pancreas (two). Chest radiograph, serum calcium and serum prostate-specific antigen (PSA) were performed in 94%, 46% and 43%, respectively. Of those over 40 years, 44% had an abdominal ultrasound (USS) and 26% had computed tomography (CT) scanning performed (82% of which were full staging scans) within one month. 33%, 33%, 25% and 8% of the 12 cancers found on screening were initially identified via PSA, USS, CT and CTPA, respectively.

Conclusions The incidence of cancer within one year (8%) was within the range reported by previous studies (4%–10%). This study highlights that thorough history, examination and basic screening investigations (including PSA) should be mandatory for all patients following unprovoked PE – yet for a significant proportion of patients this basic workup may be incomplete. Large prospective trials are required to conclusively establish the value of routine further imaging, especially that involving ionising radiation, and the decision to offer more intensive screening should be made on a case-by-case basis.