Methods We conducted a retrospective review of patients diagnosed with new PE at Milton Keynes hospital between August 2014 and 2015 to determine the proportion of patients found to have malignancy after CT. Selected patient notes were interrogated for clinical and laboratory findings at the time of diagnosis, and for details of subsequent management.

Results 177 patients were included in our study. 102 received a CT A/P, 88 of whom did not have an established diagnosis of cancer. Out of the 88, 5 new diagnoses of cancer were made. In 10 cases, CT revealed incidental findings. 8 patients received further imaging, and 2 investigated with invasive procedures. 4 of the 5 new cancer diagnoses had abnormal findings after basic screening.

Standardised incidence ratios were calculated to assess the probability of presence of undiagnosed cancer in patients presenting with PE. Our data showed no significant increase in the incidence of cancer in patients presenting with PE compared to national cancer statistics (SIR of 0.75 in males (CI: 0.2–0.64) and 1.0 in females (CI: 0.23–0.56) aged 70–79).

Discussion Our data suggests that in patients presenting with acute PE, clinical acumen (as outlined by NICE) can be used to identify patients with potential malignancy. Our data would support limiting CT A/P to patients with significant clinical features or deranged tests.

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P26 CT ABDOMEN AND PELVIS FOR UNPROVOKED PULMONARY EMBOLISM – WHAT IS THE BEST PRACTICE?

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Background NICE guidelines advocate further investigations for cancer with an abdomino-pelvic CT scan (CT A/P) in all patients aged over 40 years with a first unprovoked deep vein thrombosis (DVT) or pulmonary embolism (PE) who do not have signs or symptoms of cancer based on initial investigation.¹ Recent prospective study showed no difference between 'limited' screening and CT A/P in diagnosing occult cancer.² We aimed to establish whether the number of new malignancies detected justified the risk of radiation exposure from performing a CT A/P in patient with unprovoked PE.

Methods We performed a retrospective analysis of all CT Pulmonary Angiograms (CTPA) performed during a one year period (2014–2015) in a district general hospital. Records of those patients with confirmed pulmonary embolism on CTPA (n = 254) were examined to ascertain whether performing CT A/P increased the detection rate of occult malignancy.

Results 124 (49%) out of a total 254 patients had an acute unprovoked PE. Of these, 6 patients were under the age of 40 years. Out of the remaining 118 patients, 80 (68%) patients underwent CT A/P. Unexpected malignancy was found in 3 (4%) of these 80 patients. No evidence of malignancy has been found

in those patients that did not undergo CT A/P (n = 38) so far based on the follow up clinical encounters – both as an in-patient and outpatient.

Conclusion Our data support the finding that the routine use of CT A/P in patients with unprovoked PE doesn't detect significant number of occult malignancies.

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P27 EVALUATION AND BASELINE CHARACTERISTICS OF PATIENTS WITH CHRONIC THROMBOEMBOLIC DISEASE IN A SINGLE REFERRAL CENTRE

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Introduction Chronic thromboembolic disease (CTED) is a consequence of failure of thrombus resolution following pulmonary embolism. Thrombotic material becomes fibrosed, resulting in chronic vascular occlusion without pulmonary hypertension. The prevalence and incidence of the condition is unknown and the mechanisms behind exercise intolerance are poorly understood. Surgical management in selected cases may significantly improve symptoms and patient functioning.¹

Methods We prospectively evaluated baseline characteristics of patients with CTED in a single referral centre between January 2015 and June 2016. Newly referred patients with suspected CTED underwent a standard assessment as delineated in international guidelines with a minimum of 2 imaging modalities, resting and exercise right heart catheterisation and additionally incremental cardiopulmonary exercise testing (CPET). All patients were assessed in a pulmonary endarterectomy (PEA) MDT.

Results 128 patients were diagnosed with CTEPH or CTED from our referral centre. 28 patients were referred with suspected CTED due to ECHO findings. Of these 21 patients were confirmed to have CTED at right heart catheterization and 16 underwent full investigation protocol and were analysed. Patients with CTED were younger than contemporary cohorts of CTEPH² and were more likely to have a past medical history of VTE (94%). Patients with CTED had normal resting haemodynamics, preserved RV function at rest and normal NT-proBNP (Table1). After careful review of each patient's investigations only 5 of the 21 patients with CTED were offered PEA.

Conclusions Patients with CTED represent a significant proportion of the new referrals to our specialist centre. Surgery is deemed an appropriate therapeutic approach in a small subset of patients with significant functional and symptomatic impairment. The natural history of CTED is unclear so any discussion of surgery needs to carefully consider surgical risk of death and morbidity against the potential for symptomatic improvement.

Abstract P27 Table 1 Baseline characteristics and results of invasive and non-invasive investigations.

Gender M/F	11 (69)/5 (31)
Age [years] Median, IQR	53, 46.6–61.5
WHO class I/II/III	2/9/5
NT-proBNP [pg/ml] Mean $\pm$ SD	76.87 $\pm$ 81
6MWT Median, IQR	444, 366–521
• Distance [m]	1.5, 1–3.75
• Δ SpO ₂	
mPAP [mmHg] Median, IQR	20.5, 18–23
PVR [dyn·s·cm ⁻⁵] Median, IQR	158, 112–195.7
PAWP [mmHg] Median, IQR	10.5, 8–12
CO [L/min] Median, IQR	5.35, 4.1–5.8

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P28

CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION: LONG TERM OUTCOMES IN SURGICAL AND NON-SURGICAL PATIENTS

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Introduction Chronic thromboembolic pulmonary hypertension (CTEPH) is commonly associated with a history of venous thromboembolism. Pulmonary endarterectomy (PEA) offers a potential cure in surgically accessible disease. However, a significant proportion of patients with CTEPH may not undergo surgery due to various reasons including disease distribution, comorbidities and patient choice. This group of patients have previously been considered to have a poor outcome although an international registry has recently reported on improved medium term outcomes in this patient population.

Aims and objectives To compare long term survival of patients with CTEPH undergoing pulmonary endarterectomy (CTEPH-surgical-operated), surgically accessible disease not undergoing pulmonary endarterectomy (CTEPH-surgical-not-operated), surgically inaccessible disease (CTEPH-non-surgical).

Methods Data was retrieved from hospital records and departmental database for consecutive, treatment-naïve patients with CTEPH diagnosed between 1st January 2001 and 30th November 2014 and followed up till 30th November 2015 at the Sheffield Pulmonary Vascular Disease Unit and collected in the ASPIRE registry. Patients with suspected CTEPH undergo systematic evaluation but formal pulmonary angiography is only performed when other imaging modalities such as CTPA, MR imaging and nuclear medicine imaging are non-diagnostic.

Results 592 patients, mean age ($\pm$ standard deviation), 65 $\pm$ 22 years, mean pulmonary arterial pressure 48 $\pm$ 13 mmHg and median pulmonary vascular resistance 480 $\pm$ 463 dynes/cm⁵ were identified and followed for 4.3 $\pm$ 3.2 years. 5 year survival was significantly ($p < 0.001$) better in CTEPH-surgical-operated ($n = 279$) at 82.9 $\pm$ 3.1% compared to CTEPH-surgical-not-

operated ($n = 206$) at 44.4 $\pm$ 5% (66.7 $\pm$ 9.1% patient choice, 39.4 $\pm$ 6% comorbidities) and 53.4 $\pm$ 5.8% in CTEPH-non-surgical ($n = 107$). Only 4% of the patients in our study were investigated with conventional pulmonary angiography. The median time to PEA surgery from diagnosis was 10.2 months and did not affect long term survival ($p = 0.52$).

Conclusions For operable patients with CTEPH pulmonary endarterectomy is associated with an excellent long term outcome, the long-term survival of patients with surgical disease who decline surgery is significantly better than historically reported and that a non-invasive multimodality imaging approach can be used to assess patients with suspected CTEPH. Furthermore there is no time from diagnosis to surgery which predicts outcome.

Surgical Operated	279	272	228	196	151	122
Surgical Nonoperated	206	166	110	79	57	44
Non surgical	107	96	84	63	49	39
Overall	592	534	422	338	257	205

Abstract P28 Figure 1 Kaplan-Meier estimates survival from date of diagnosis in CTEPH, surgical, operated, CTEPH, surgical, not-operated and CTEPH, non-surgical patients, log-rank test, $p < 0.001$

P29

EXERCISE INTOLERANCE IN CHRONIC THROMBOEMBOLIC DISEASE: EVALUATION, UNDERLYING MECHANISMS AND CLINICAL IMPLICATIONS

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Introduction Patients with chronic thromboembolic disease (CTED) without pulmonary hypertension commonly present with dyspnoea and fatigue. These symptoms limit physical function and impair quality of life. As resting haemodynamics in these patients are normal or near normal, stress testing may be a useful investigation to clarify mechanisms of functional impairment.

Methods We prospectively evaluated baseline characteristics of patients with CTED in a single referral centre between January 2015 and June 2016. Newly referred patients with suspected CTED underwent a standard assessment as delineated in international guidelines¹ with a minimum of 2 imaging modalities, resting and exercise right heart catheterisation (RHC) and additionally incremental cardiopulmonary exercise testing (CPET). All patients were assessed in a pulmonary endarterectomy MDT.