P193 COMPLICATIONS AFTER THORACOCENTESIS AND SMALL BORE INTERCOSTAL DRAIN INSERTION: A SINGLE CENTER STUDY FROM THE NORTH EAST OF ENGLAND

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Introduction There are no prospective studies looking at complications of pleural procedures. Previous British Thoracic Society Pleural audits and retrospective case series inform current practice. Incidence of any complication is between 1–15%. We sought to add to the existing literature and inform local practice with regards to intercostal drains and thoracocenteses.

Methods Local Caldicott approval was sought for a review of all inpatient adult pleural procedures coded as 'T122 drainage of pleural cavity' and 'T124 insertion of tube drain into pleural cavity'. Those undergoing thoracocentesis (all with a Rocket 6Fg catheter) and intercostal drain insertion (ICD, all with Rocket 12Fg drain) were identified. Continuous variables are presented as mean ($\pm$ range) and categorical variables as percentages where appropriate.

Results 1159 procedures were identified. 199 and 960 were done for pneumothorax and effusions respectively. Mean age was 68.1 years (17–97). There were 280 thoracocenteses and 879 ICDs. Bleeding occurred in 6 (0.5%), all ICDs (clotting and platelets were within normal range, 1 patient was on aspirin, 1 on aspirin and clopidogrel). All settled except for one who had intercostal artery rupture needing cardiothoracic intervention (no anti-coagulation). 9 pneumothoraces occurred (0.78%) in 7 ICDs and 2 aspirations). There were 3 definite pleural space infections (0.3%) with 3 ICDs. Fall out rates for ICDs were 35 (3%). 9 were not sutured, out of those 7 inserted in the Accident and Emergency department, out of hours. All others 'came out' due to patient factors. (previous quoted rates up to 14%). Surgical emphysema occurred in 43 (41 ICDs), 3.7%. 8 were due to fall outs and 3 required surgical intervention. There were no re-expansion pulmonary edema and no direct deaths.

Conclusions Complication rates of ICD and thoracocenteses are low. Checklists might help to remind operators of the need for suturing. Limitations of this study are its retrospective nature, and reliance on correct hospital coding.

P194 SEPTATION FORMATION FOLLOWING PLEURAL INTERVENTION

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Background Recurrent pleural intervention may complicate the pleural space by inducing pleural inflammation with subsequent septation formation. We evaluated our five year experience in the incidence of pleural septations in patients undergoing pleural interventions.

Method We retrospectively identified patients who underwent thoracic ultrasound (TUS) in our pleural service from our reporting database between August 2015 and February 2021. Categorical reporting of the presence of septations was used, reporting septations as either present or absent. Repeated

TUS, types of pleural interventions, and time between these interventions were analysed.

Results Of the 2737 index TUS performed, we recorded whether septations were present or not in 2684 (98%) patients. Of these, septations were present in 715/2684 (26.6%; 95% CI 25–28.3%) cases.

In 297 patients with >1 TUS reports, 187 underwent an intervention at the index visit. At baseline, septations were present in 39/187 (20.9%) of these patients. Of the remaining 148/187 (79.1%) patients without septations on index scan, 24/148 (16.2%; 95% CI 10.7–23.2) reported the formation of new septations at the second TUS visit at a median [interquartile range] time interval of 21 [9–63] days.

No association was seen between the type of intervention and development of septations [chest drain 14.2% (1/7), diagnostic aspiration only 22.2% (6/27), therapeutic aspiration 15.3% (17/111) $p=0.68$].

No difference was observed in those patients with serial scans, not undergoing intervention, with new septations reported in 15/75 (20%) ($p=0.48$), while a shorter time interval between scans reporting conversion to septations (median [IQR] 7 [2.25–57] days ($p=0.04$)) was noted.

Conclusion Overall, in this large cohort of patients seen through our pleural service, septations were present in a quarter of baseline thoracic ultrasound examinations. Septations formed with or without intervention in around 1 in 5 patients. Understanding this further has significant implications for diagnostic and management pathways.

P195 PLEURAL EFFUSIONS ASSOCIATED WITH PERICARDITIS OR MYOCARDITIS

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Introduction A literature search over the last decade found 1 paper regarding pleural effusions in pericarditis/myocarditis. 94 pleural effusions were described in 177 patients (53%). They were predominantly bilateral, associated with C reactive protein (CRP) levels and female sex.¹ No local review has ever been performed. We sought to add to the literature and inform local practice.

Methods With Caldicott approval, a review of all cardiac magnetic resonance imaging (cMR) records from the local cardiological database was performed. Pericarditis/myocarditis cases were analysed further to determine presence of pleural effusions. Those were analysed for basic demographics, pleural interventions and outcomes. Continuous variables are presented as mean ($\pm$ range) and categorical variables as percentages where appropriate.

Results 4368 cMRs were reviewed (July 2016–July 2020); 82 (1.9%) patients had pericarditis/myocarditis; 28 (33%) had pleural effusions on contemporaneous imaging. Mean age was 63.1 years (range 24–83); 15 were female, and 19 male. Diagnoses were viral (1), rheumatological (2), amyloidosis (2), listeria (1) and the rest idiopathic (22). 3 effusions were only left sided, 1 right sided and 24 bilateral. 7 pleural taps were performed, 1 for a unilateral effusion and 6 for one side being bigger than the other. The mean Ph 7.46 (7.33–7.6), mean LDH 210 (74–393 U/L), mean fluid protein 36.1 (19–56 g/L) [4 effusions exudative/3 transudative], mean glucose 5.8 (4.8–6.8 mmol/L), all cytologies were negative. 6 patients

underwent large volume aspirations for symptom control. 3 indwelling catheters (IPC) and 2 intercostal drains were placed for treatment refractory effusions. There was one pleural space infection in 6 months, related to an IPC. There were 3 deaths at 12 months, none related to pericarditis/myocarditis.

Conclusions Pleural effusions occur in approximately a third of patients with pericarditis/myocarditis and are predominantly bilateral. Treatment refractory cases require pleural intervention: aspirations, drains and IPCs are all viable options. Limitations of this study are its retrospective nature, manual searching techniques and incomplete data related to values such as CRP. Our sample size is also too small to infer meaningful data on aetiology, pleural fluid biochemistry and gender predominance. A prospective study is thus warranted.

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PNEUMOTHORAX AND CARDIAC DEVICE IMPLANTATION: A 10 YEAR RETROSPECTIVE REVIEW FROM A SINGLE CENTRE IN THE NORTH EAST OF ENGLAND

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Introduction In patients undergoing pacemaker (PPM) implantation or cardiac resynchronization, pneumothorax incidence was 1–6%, and commoner in women over 80 years of age with chronic obstructive pulmonary disease (COPD).^{1 2} No local review has ever been performed. We sought to add to the literature and inform local practice.

Methods Local Caldicott approval was sought for a review of cardiac device implantations from the local cardiological database. Those identified as being complicated by a pneumothorax on radiology reports were analysed further with basic demographics, pleural interventions and outcomes. Continuous variables are presented as mean ($\pm$ range) and categorical variables as percentages where appropriate.

Results 2056 implantation episodes from Jan 2010-Dec 2020 were reviewed. 70 pneumothoraces (3.4%) were identified, all related to PPM insertion. Mean age was 68.1 years (17–97), 39 were female, and 31 male. All pneumothoraces were on the side of the PPM (3 right, 67 left). 36 pneumothoraces were small, and 34 large according to British Thoracic Guidance criteria. 56 patients with minimal symptoms (30 were large pneumothoraces) were observed initially, with 5 requiring intercostal drainage (ICD) due to enlargement of pneumothorax and progressive symptoms. 14 pneumothoraces were treated with ICD as 1st line treatment: mean age was 78 years (69–89) and 8 had concurrent COPD. 5 pneumothoraces were large and all patients had significant symptoms. All pneumothoraces resolved within 6 weeks on follow up radiographs. There was no associated mortality.

Conclusions Pneumothorax rates following cardiac device implantation are low. Irrespective of size, such iatrogenic pneumothoraces with minimal symptoms can often be observed with adequate safety netting. Limitations of this study are its retrospective nature and manual searching techniques. Specific reasons for causing a pneumothorax such as excessive lead manipulation were unable to be identified retrospectively. A prospective study is thus warranted.

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SECONDARY SPONTANEOUS PNEUMOTHORAX: EXAMINING THE EQUIPOISE

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Introduction and Objectives Current BTS guidelines recommend intercostal chest drain (ICD) for management of large secondary spontaneous pneumothorax (SSP) on the presumption that needle aspiration (NA) is less likely to be successful.¹ This premise has been challenged by a randomised control trial (RCT) by Thelle et al, which found NA halved the length of hospitalisation with fewer complications compared to ICD in patients with SSP.² We conducted a study to examine current views on management of SSP in the UK.

Methods Respiratory and emergency healthcare staff were invited, via personal email and via social media, to complete an online survey. The composed of 5 questions on a clinical vignette of a symptomatic patient with large (>2cm at hilum) SSP with no signs of respiratory compromise.

Results There were 70 responders: 64% from emergency medicine and 23% respiratory medicine. 47% were consultant grade; 44% doctors in training. 64% stated they would manage this patient with an ICD; 26% with NA; 7% with conservative care. For responders who choose ICD, the main factor influencing their decision was current clinical guidelines (64%), followed by higher anticipated success rate with chest drain (24%); familiarity of chest drain (8%) and concerns about patient safety (4%). Clinicians would be more likely to choose NA if the patient had minimal symptoms (57%), if there was a smaller pneumothorax (72%) or if there was patient preference for NA (59%), and less likely with greater severity of lung disease (60%). Most responders (89%), when presented with the Thelle et al study, would consider taking part in an RCT of NA versus ICD in SSP.

Abstract P197 Figure 1