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.

**REFERENCE**

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**P196 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 (±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 Guidelines. 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.

**REFERENCES**
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