**E-Table 1: Evidence table for selected manuscripts.**

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| Study | PICO Questions  Addressed | Study  Design | Sample  Size | | Participants  Description | Intervention | Comparator | Outcomes | Quality  Appraisal |
| Wahidi 2017 | 1A, 1B, 1C | randomized controlled trials (RCT) | | 149 | Recurrent MPE patients with symptomatic benefit after prior thoracentesis procedure(s) and underwent placement of an IPC. | Daily drainage of IPC | Every other day drainage of IPC | - Primary outcome incidence of autopleurodesis.  - Secondary outcomes included time to autopleurodesis, quality of life evaluations, and rate of adverse events. | High Risk |
| Muruganandan 2018 | 1A, 1B, 1C  1F, 1G, 1H | randomized controlled trials (RCT) | 87 | | Patients > 18 years of age with MPE with an expected survival of greater than 3 months without significant loculations. | Aggressive drainage of IPC defined as daily drainage for the first 60 days after placement. | Symptom-guided IPC drainage ( i.e. breathlessness, cough or chest tightness) maximum drainage interval q 14 days to confirm patency and assess fluid production. | - Primary outcome was mean daily breathlessness score in first 60 days using the 100mm visual analogue score (VAS).  - Secondary outcomes were rates of spontaneous pleurodesis, self-reported global QoL measurements (EQ-5D-5L and 100mm VAS at randomization after maximal drainage, week 2 and 4 after randomization and monthly for 6 months), total number of episodes and duration of hospital stay for any cause, frequency of adverse events, serious adverse events, survival. | High Risk |
| Vial 2016 | 2A | Single center retrospective cohort. | 97 | | Patients >18 y/o with non-draining IPC or a sudden decrease in IPC drainage with residual pleural effusion (>20% of hemithorax) confirmed by chest x-ray and/or ultrasound. Preexisting empyema patients excluded. | - IPC flushed with 20 mL sterile saline.  -If < 150 mL return, 4 mg of TPA instilled into IPC.  - If < 150 mL return, additional 4 mg of TPA instilled into TPC.  - At any point if > 150 mL of pleural fluid obtained patient returned to regular drainage plan. | None | - Response frequency at every level of algorithm.  - Frequency of re-occlusion following successful intervention.  - Effect of intervention on patient symptoms.  - Patient outcomes (catheter still functioning at the time of study, elective catheter removal, death with catheter in situ).  - Frequency of need for repeat intervention.  - Changes in X-ray following intervention.  - Frequency of complications. | High Risk |
| Hak 2016 | 3I | Retrospective, case-control series | 104 | | Patients who underwent insertion of an IPC for symptomatic recurrent MPE. | Patients with IPC and concurrent chemotherapy | Patients with IPC not receiving concurrent chemotherapy | - Primary outcome development of pleural infection.  - Secondary outcomes included other adverse events and six-month mortality. | High Risk |
| Mitchell 2018 | 3I | Retrospective, case-control series | 207 patients  126 IPCs | | Patients with breast cancer, MPE and IPC. | concurrent chemotherapy (with in-situ IPC). | No concurrent chemotherapy | - Primary outcome was time to IPC removal.  - Secondary outcome was time from IPC insertion to death. | High Risk |
| Mekhaiel 2013 | 3I | Retrospective, case-control series | 243 patients  262 IPCs | | Patients with MPE + IPC (Cancer breakdown was Lung 41%; breast 16%; lymphoma 7%; Ovarian 7%). | concurrent chemotherapy (with in-situ IPC) or chemotherapy within 6 weeks of IPC insertion. | No concurrent chemotherapy (with in-situ IPC) or chemotherapy within 6 weeks of IPC insertion. | - Primary outcome was overall incidence of IPC related infection | High Risk |
| Fysh 2013 | 3G, 3H | Multicenter retrospective cohort. | 50 | | Patients with histologically proven MPE and pleural infections (positive microscopic examination, positive pleural fluid culture, or purulent pleural fluid) with clinical evidence of pleural infection requiring antibiotics. | Data abstraction of patients with pleural infection. | None | - Pre-infection patient characteristics.  - Microbiological characteristics of infection.  - IPC Infection frequency  - Time to IPC infection  - Malignant effusion diagnosis. - Frequency of infection control  - Outcome of infection  - treatment characteristics.  - Frequency of pleurodesis following infection. | High Risk |

MPE= Malignant pleural effusion

IPC= Indwelling pleural catheter