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| --- | --- | --- | --- | --- | --- | --- |
| **Surgical Approach** | **Laparotomy** | **Thoracotomy** | **Both** | **Laparoscopy** | **Thoracoscopy** | **Complications/Outcomes** |
| Adamwaithe 1982 (n=11) | 10 |  | Laparotomy conversion to thoracotomy due to adhesions (1) |  |  | Wound infection and emypema (2), wound infection. All had colonic gangrene at time of surgery. No deaths. |
| Athanassaidi 1999 (n=5) |  | 5 |  |  |  | No gastrointestional resections required. No major morbidity or mortality. |
| De Nadia 2015 (n=4) |  |  | 3 |  | 1 (with laparotomy) | No recurrences at 2 year follow-up. |
| Dinc 2015 (n=2) | 2 |  |  |  |  | No complications. |
| Gwely 2010 (n=6) |  | 6 |  |  |  | No ischemia related to hernia. No mortality. |
| Hegarty 1978 (n=22) | 8 | 7 | 2 (planned) and 5 patients with laparotomy converted to thoracotomy |  |  | One laparotomy patient with iatrogenic colotomy that died. Five conversions to thoracotomy from laparotomy (one patient with colon perforation during reduction). 5 deaths not stratified to approach an 4/5 had gangrenous viscera. |
| Hofmann 2012 (n=5) | 5 |  |  |  |  | No deaths. |
| Lu 2016 (n=6) | 2 | 4 |  |  |  | No complications. No recurrences at follow-up (unclear follow-up time frame). |
| Matsevych 2008 (n=3) | 3 |  |  |  |  | Wound dehiscence and death in 1 patient. |
| Matthews 2003 (n=9) | 2 |  |  | 7 |  | Three out of 9 presented with intestinal obstruction. No intraoperative complications. Two out of 9 attempted laparoscopic repairs converted to laparotomy. No recurrences at follow-up. |
| Murray 2004 (n=28) | 19 | 9 |  |  |  | Thirteen out of 19 TA presented emergently, 1 out of 9 TT presented emergently (p = 0.01). No difference in mortality, ventilator days, ICU LOS, and hospital LOS. Pneumonia more common in TT (p = 0.03) |
| Ozpolat 2009 (n=6) |  | 6 |  |  |  | No deaths. |
| Payne 1982 (n=21) | 13 | 7 | Laparotomy conversion to thoracotomy (1) |  |  | 4 patients with empyema in which 2 had either necrotic omentum or necrotic colon and not stratified to approach. One iatrogenic enterotomy during transabdominal reduction of hernia. One mortality and not stratified to approach. |
| Reber 1998 (n=10) | 8 | 1 | Thoracotomy with conversion to laparotomy due to difficulties reducing hernia (1) |  |  | Left sided all repaired via laparotomy and 1 patient required splenectomy and another resection of necrotic transverse colon and small bowel. Right sided hernias initially approached by thoracotomy and 1 patient required additional laparotomy. One death. No recurrences at follow-up (range 1 month to 16 years). |
| Sattler 2002 (n=7) |  | 6 | Laparotomy with conversion to thoracotomy due to difficulties reducing hernia (1) |  |  | One patients required thoracotomy after laparotomy incision due to difficulties reducing hernia transabdominally. One post-operative pulmonary embolus and one death (unclear if either in the 1 patients undergoing initial laparotomy). |
| **TOTALS (n=145)** | **72** | **51** | **14** | **7** | **1** |  |

Supplemental Digital Content 3: Surgical approach for delayed diaphragmatic hernia.