

**OP16 ULTRASOUND GUIDED  
NEEDLE DECOMPRESSION OF  
TENSION PNEUMOPERITONEUM:  
A SIMPLE, INNOVATIVE, LIFE  
SAVING INTERVENTION OF A  
SURGICAL EMERGENCY**

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Introduction

Tension pneumoperitoneum (TP) is a rare complication of barotrauma. In mechanically ventilated patient, it could result in immediate ventilatory and hemodynamic instability. It is an acute life-threatening condition requiring emergency needle decompression.

Case

We report a case of tension pneumoperitoneum (TP) in a 32-year-old lady presented with severe shortness of breath, unresponsiveness and a brief episode of bystander Cardiopulmonary Resuscitation (CPR). Patient was intubated and mechanically ventilated upon arrival. She was treated as severe life-threatening asthma and was ventilated with obstructive lung strategy. The team had difficulties maintaining her oxygen saturation and she was persistently hypotensive despite initial fluid resuscitation. The team also noted a progressively distended tympanic abdomen. Bedside point of case ultrasound was unhelpful due to the presence of subcutaneous air. TP was suspected after immediately ruled out esophageal intubation. Ultrasound-guided abdominal decompression was performed at the bedside. Patient ventilatory and hemodynamic parameters immediately improved.

Results

Her arterial blood gas showed severe respiratory acidosis and her supine Chest xray showed presence of air under diaphragm. Abdominal xray showed Rigler's sign (Double-wall sign), and Football sign suggesting the presence of massive free intraperitoneal air.

Discussion

TP is a rare surgical emergency. It might also be the result of barotrauma due to high airway pressure immediately after the initiation of mechanical ventilation such as in this case. TP rapidly caused obstructive shock further compromising ventilation and hemodynamic parameters in our patient. We performed emergency needle decompression of the pneumoperitoneum at the bedside under ultrasound guidance.

Conclusion

TP is a rare complication of barotrauma. The rapidly accumulating air within the peritoneum could result in an abdominal compartment syndrome. In a rapidly progressing TP, peritoneal decompression is warranted and can be safely performed immediately at the bedside