

Submitted: 05 Sep 2026

Revised: 14 Sep 2026

Accepted: 20 Sep 2026

Published: 30 Sep 2026

Access This Article Online



Website:
theanaesthesiologist.com

Intraoperative rise in airway pressure during hysteroscopy: A diagnostic dilemma resolved by point-of-care ultrasound.

Aswani kumar Balakrishna Pillai, (ORCID ID: 0009-0006-0839-7497), Consultant

Anaesthesiologist, Nahas hospital, Parappanangadi

Shafseena A Rahim, Specialist Anaesthesiologist, Nahas Hospital, Parappanangadi

Corresponding Author : Aswani kumar Balakrishna Pillai, Consultant Anaesthesiologist, Nahas hospital, Parappanangadi.

Email: aswani.76@gmail.com

How to cite this article: Aswani kumar Balakrishna Pillai, Shafseena A Rahim. Intraoperative rise in airway pressure during hysteroscopy: A diagnostic dilemma resolved by point-of-care ultrasound, TAISAK 2026; 2(2): 121-122

Dear Editor,

A sudden increase in airway pressure during general anaesthesia commonly prompts evaluation for bronchospasm, endotracheal tube obstruction, circuit malfunction, pneumothorax or other respiratory causes. We report an unusual instance during hysteroscopy in which point-of-care ultrasound (POCUS) helped identify an unexpected intra-abdominal cause of deteriorating ventilation.

A 46-year-old woman with type 2 diabetes mellitus and a history of previous open myomectomy was scheduled for relook hysteroscopy under general anaesthesia. Following induction and tracheal intubation, ventilation was initially satisfactory, with peak airway pressures of 18–20 cm H₂O.

During hysteroscopy, a progressive rise in airway pressure was noted, reaching 42 cm H₂O, accompanied by increasing end-tidal carbon dioxide and a fall in oxygen saturation to 88%. Bilateral wheeze was present on auscultation. Bronchospasm was initially suspected and treated; however, the improvement was only partial.

As the respiratory abnormality persisted, POCUS

was performed to rapidly evaluate other potential causes. Lung ultrasound demonstrated preserved bilateral lung sliding without evidence of pneumothorax. Abdominal ultrasonography unexpectedly revealed significant intraperitoneal free fluid.

In the context of ongoing hysteroscopy, these findings raised the possibility of uterine perforation with accumulation of hysteroscopic irrigation fluid within the peritoneal cavity. The procedure was stopped and an urgent surgical assessment was undertaken. Emergency laparoscopy confirmed uterine perforation with a significant volume of intraperitoneal fluid.

Evacuation of the intraperitoneal fluid resulted in a rapid reduction in airway pressure with improvement in oxygenation and end-tidal carbon dioxide. The patient remained haemodynamically stable and subsequently recovered uneventfully following post-operative observation in the intensive care unit.

Uterine perforation is a recognised complication of hysteroscopy, with previous uterine surgery being among the potential risk factors. When irrigation fluid enters the peritoneal cavity, progressive abdominal distension can increase intra - abdominal

pressure. Cephalad displacement of the diaphragm reduces thoracic compliance and functional residual capacity and may impair ventilation and oxygenation. The resulting increase in airway pressures may mimic primary respiratory pathology, particularly when wheeze is also present.

This case illustrates the importance of maintaining a broad differential diagnosis when airway pressures increase unexpectedly during anaesthesia. Although bronchospasm was a reasonable initial consideration, its incomplete response to treatment prompted further evaluation. Bedside POCUS allowed rapid assessment of the lungs, heart and abdomen and identified the otherwise unsuspected intraperitoneal fluid.

POCUS is increasingly becoming an extension of the anaesthesiologist's clinical examination during perioperative emergencies. A focused multiorgan ultrasound assessment can be particularly useful when conventional clinical signs are non-specific and rapid differentiation between pulmonary, cardiovascular and intra-abdominal causes is required.

The key message from this case is that not all intraoperative wheeze and increased airway pressure represent primary airway pathology. During hysteroscopic procedures, uterine perforation with intraperitoneal accumulation of irrigation fluid should be considered when ventilation deteriorates unexpectedly. Early use of POCUS may shorten the diagnostic pathway and facilitate timely definitive management.

Financial support : NIL

Conflicts of interest : NIL

References

1. Volpicelli G, Elbarbary M, Blaivas M, et al. International evidence-based recommendations for point-of-care lung ultrasound. *Intensive Care Med.* 2012;38:577–591.
2. Ramsingh D, Rinehart J, Kain Z, et al. Impact assessment of perioperative point-of-care ultrasound training on anesthesiology residents. *Anesthesiology.* 2015;123:670–682.
3. Lichtenstein DA. Lung ultrasound in the critically ill. *Ann Intensive Care.* 2014;4:1.
4. Baggish MS, Valle RF, editors. *Hysteroscopy: Visual Perspectives of Uterine Anatomy, Physiology and Pathology.* 3rd ed. Philadelphia: Lippincott Williams & Wilkins; 2007.
5. Propst AM, Liberman RF, Harlow BL, Ginsburg ES. Complications of hysteroscopic surgery: Predicting patients at risk. *Obstet Gynecol.* 2000;96: 517–520.
6. Jansen FW, Vredevoogd CB, van Ulzen K, Hermans J, Trimbos JB, Trimbos-Kemper TCM. Complications of hysteroscopy: A prospective, multicenter study. *Obstet Gynecol.* 2000;96:266–70.