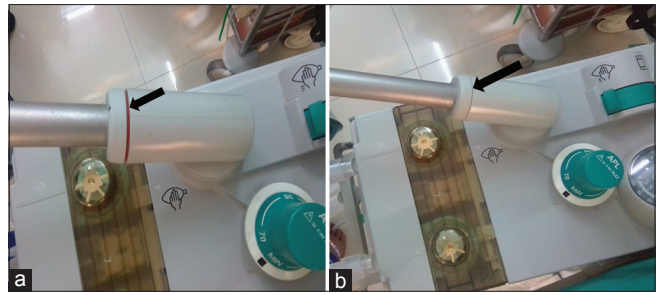


## Sneaky leaks: Old devil, new location

Sir,

The anaesthesia machine is a well-recognised source for leakage of anaesthesia gases.<sup>[1]</sup> There are several areas in the machine that have already been identified as possible contributors to leak. With advancing technology, newer anaesthesia machines have integrated many more components than the older machines and therefore, there can be more sources for leakage of anaesthesia gases. Inability to correctly identify these defects can be quite dangerous as they may lead to life-threatening complications during the conduct of anaesthesia.<sup>[1,2]</sup> Daily stringent machine checks as per existing guidelines help in minimising mishaps by identifying the leak before use.<sup>[1]</sup> We wish to report a unique source for gas leak from Datex Ohmeda Aespire 5 anaesthesia machine (Datex Ohmeda Aespire/5 GE healthcare, Madison, USA).

A 45-year-old female was scheduled for excision of pineal gland tumour. Before shifting the patient to the operating room, a machine check was carried out along with circle system which showed significant gas leak (3 L/min). Vapourisers (sevoflurane and isoflurane, Tec 7) were removed, but the leak continued to exist. Replacing the breathing circuit with a fresh one, readjusting the CO<sub>2</sub> canister and replacing the reservoir bag did not help minimise the leak. Since the source of leak could not be located despite all these measures and the leak was approximately 3 L/min and nearly 30 min was spent holding the patient outside the operating room, it was decided to proceed with the induction process with the total fresh gas flows adjusted to correct for the leak of 3 L/min. Following intravenous anaesthesia induction, positive pressure ventilation was commenced with bag and mask. At this juncture, one of the anaesthesiologist started appreciating the gas leak from the handle of the bag arm [black arrow, Figure 1a] that is connected to the reservoir bag. The leak was actually happening from the threaded ring covering the port into which the bag arm of the machine is tightly screwed. In fact, this joint was practically invisible. After rectifying this defect by screwing in the connecting



**Figure 1 :** (a) Black arrow indicates the site of leak in the bag arm of the anaesthesia machine. (b) Black arrow points to the same junction after the connecting ring which covers the joint between machine and bag arm has been properly tightened

ring which covers the joint between machine and bag arm [black arrow, Figure 1b], total gas flows could be reduced to <1 L/min and subsequent management of the patient was possible under very low flow anaesthesia and was uneventful. At the end of the procedure, after the patient was shifted out of the operating room, the anaesthesia machine was again tested for leak which showed <50 mL/min leak. Further, as we kept opening this port that connected the bag arm to the anaesthesia machine, the quantity of leak kept increasing indicating this to be a potential source for large gas leak if ignored during machine check. Authors, therefore, believe that this source of leak should be kept in mind during Datex Ohmeda machine checks while the manufacturers may take note of this and attempt to redesign this assembly point.

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### Conflicts of interest

There are no conflicts of interest.

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## REFERENCES

1. Goneppanavar U, Prabhu M. Anaesthesia machine: Checklist, hazards, scavenging. *Indian J Anaesth* 2013;57:533-40.
2. Dorsch JA, Dorsch SE, editors. *Hazards of anesthesia machines*

and breathing systems. In: Understanding Anesthesia Equipment. 5<sup>th</sup> ed. Philadelphia, USA: Lippincott Williams & Wilkins; 2007. p. 373-403.

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