
Is our routine machine check adequate for detection of damaged unidirectional valve

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Abstract

Safety during anesthesia has long been an issue. Machine check pre-induction is routinely done in our hospital as per the UK guidelines (2004). After a satisfactory machine check, 55 year old male, posted for pneumonectomy, was induced with propofol and vecuronium. A 39 no DLT was passed. While confirming the tube placement there was significant leak and patient was getting inadequately ventilated. Repeat check of circuit revealed no obvious disconnection or source of leak. The integrity of tracheal tube cuff was doubted. Fortunately on repeat examination of the machine the inspiratory valve was found cracked. Weigel W.A. and Murray W.B.¹ believe that the FDA guidelines to visually inspect the unidirectional valve (UDV) during

machine check may be inadequate [1]. They have suggested that Modified Pressure decline method (MPDM) provides a quick and effective method for identifying incompetent unidirectional valves. In our case whether the UDV cracked after machine check or whether the MPDM would have picked the damaged valve are all speculations in the retrospect. But one needs to keep in mind in cases of unexplained leak one needs to inspect the UDV carefully again.

References

1. Weigel W.A., Murray W.B. Detecting Unidirectional Valve Incompetence by the Modified Pressure Decline Method. *Anesth Analg* 2005; 100: 1723-7

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