

## CORRESPONDENCE

during the second study session 3 days later. Xenon administration resulted in an increase in the BIS, although clinically xenon caused concentration-dependent sedation. Four weeks later, our Department of Neurology obtained a 16-lead diagnostic EEG of this volunteer. A diagnosis of a genetically determined low voltage EEG was made. This is defined by amplitudes not greater than 20 mV over all head regions and occurs with an incidence of between 5-10% of the population.<sup>5</sup> It is not associated with any brain dysfunction.

The BIS EEG index was developed from patients with normal EEGs. It is therefore expected that the BIS may be misled by patients with abnormal EEG patterns. Most anesthesiologists will not be able to determine whether an EEG pattern is "normal" or "abnormal" from inspection of the waveform itself. Thus, it is essential to confirm a normal BIS value when the patient is awake to prevent misleading interpretations of subsequent BIS values during anesthesia.

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## A Rare Cause of Fire in the Operating Room

Recently a 42-yr-old man was undergoing a right upper lobectomy during general anesthesia. He had a history of tuberculosis and aspergillosis. The surgical procedure was difficult because of tissue inflammation and numerous adhesions. After the right upper lobe was resected, there were multiple gas leaks and bleeding sites on the remaining lung tissue. The gas leak through the lung tissue was so large that the patient required a ventilator tidal volume setting of 1,500 cc augmented by a fresh gas flow of 10 l/min to maintain normocapnia. Despite the patient being ventilated with 100% oxygen, the hemoglobin-oxygen saturation as measured by pulse oximetry remained in the low 90s.

A dry gauze lap pad had been inserted in the thoracic cavity, and the surgeon was using an electrocautery for hemostasis. Shortly after, before the lap pad had absorbed any blood, the entire lap pad suddenly caught fire. The flames were bright, and the material was avidly burning. The surgeon immediately grabbed the burning lap pad by a corner and pulled it out of the chest. He threw it on the floor, stepping on it repeatedly until all the flames were out. The extinguished gauze was a dark brown color, and it was obvious that it had been completely engulfed in flames. There were no apparent injuries to the patient or the surgeons, and the case ended uneventfully.

There are many case reports of fires in the operating room.<sup>1</sup> However, a fire within the thoracic cavity after a lobectomy is a rare incident. The oxygen-rich environment, the dry gauze, and the electrocautery created ideal conditions for the lap pad to ignite.

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This incident reminds us once again of the danger of using the electrocautery in an oxygen-rich environment. To minimize the possibility of a fire under similar circumstances, it has been recommended to moisten the sponges with saline before placing them in the operative field.<sup>2</sup> Additionally, the oxygen concentration should be the minimum the patient can tolerate without resulting in hypoxemia. Nitrous oxide should be avoided because, although it is not a flammable anesthetic, it also avidly supports combustion.

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