LETTER TO THE EDITOR

Endoscopic thermal injuries should not be ignored, especially in developing countries

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Dear Editor,

My purpose in writing this letter is to draw your attention to endoscopic thermal injuries, especially in developing countries such as Pakistan and China.

I recently encountered a case that disturbed me. While replacing a nasal endoscope, the fibre optic light cable accidentally fell onto the surgical drape, and I immediately noticed a burnt smell. When I removed the optic cable, I found a hole in the drape (Figure). Moreover, in conversations with my colleagues, I discovered that at least three such incidents had occurred in the operating room of our hospital in nearly 5 years. Even more disturbing is the prospect of an optic cable falling on a patient's face leading to disfigurement. In addition, the heat generated may cause thermal injuries to nerves.

Therefore, endoscopic thermal injuries should not be ignored. Fortunately, previous studies have emphasized the importance of avoiding endoscopic thermal injuries. To avoid endoscopic thermal injuries, Ozturan et al.[1] designed endoscopic thermal monitoring equipment and recommended setting the light intensity at <50% as well as removing the endoscopic tip and intermittently flushing the tissue. Rice et al.[2] recommended that a temperature >43°C posed a high risk for endoscopic thermal injuries. Panigrahi et al.[3] recommended using a finer diameter optic cable, light intensity <60%, and an increased working distance. Souza et al.[4] recommended using LED rather than a halogen or xenon as the light source.

Bright endoscopic light sources improve the visibility of tissues. However, thermal injuries from the optic cable can be produced as a by-product. Heat applied to tissues can cause protein denaturation and dehydration as well as collagen contraction at temperatures >50°C.[5] Many of the world's leading endoscope manufacturers, such as Storz, Olympus, and Stryker, can produce endoscopes with bright light sources that rarely result in endoscopic thermal injuries. However, some domestic endoscopes, especially in developing countries, are obsolete with insufficient brightness. Increasing the intensity of the light source has been used to overcome this issue, resulting in endoscopic thermal injuries. Notably, several Chinese endoscope manufacturers, including Mindray, Tiansong, and Shenda, have been performing increasingly better. Pakistan's endoscope manufacturers may also have been performing better. However, in many developing countries, endoscopists do not undergo professional endoscopic training, as they prefer to excessively increase the endoscopic light intensity, which can easily cause endoscopic thermal injuries.

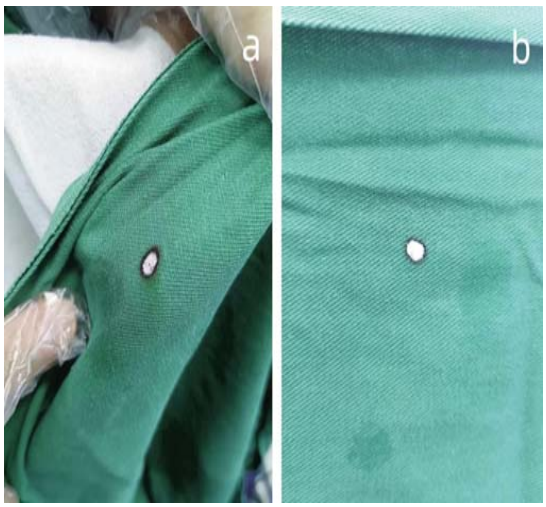

Figure: A hole has burned through the surgical drape.

In conclusion, endoscopic thermal injuries should not be overlooked, particularly in developing countries.

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