

Eye care in the intensive care unit: intraocular pressure in prone patients with COVID-19

Sundeep Deol^{1,2}

Sameer Hanna-Jumma¹

Konstantinos T Tsaousis²

Author details can be found at the end of this article

Correspondence to:

Konstantinos T Tsaousis;
konstantinos.tsaousis@gmail.com

Sir,

We read with great interest the comprehensive article entitled 'Eye care in the intensive care unit during the COVID-19 pandemic' by Sansome and Lin (<https://doi.org/10.12968/hmed.2020.0228>). The topic is currently of great importance and a national consensus is definitely needed regarding standards of eye care in the intensive care unit (Soare et al, 2020). The authors highlighted the possible ocular complications affecting COVID-19 patients admitted to the intensive care unit, more notably ocular surface problems, infections and increased intraocular pressure. To expand on this, we present findings from our experience with COVID-19 patients on the intensive care unit regarding increase of intraocular pressure seen after prone positioning.

This analysis included data from 12 patients (mean age 54.75 ± 6.22 years, 11 men) who were admitted to the intensive care unit with COVID-19 during April 2020. Initially, intraocular pressure was measured with a handheld applanation tonometer (TonoPen; Reichert), with the patient in the supine position. Before the prone positioning, the mean intraocular pressure was 11.08 ± 2.57 mmHg in the dependent eye (side of the prone position) and 11.17 ± 2.25 mmHg in the independent eye ($P=0.722$). After completion of 16 hours prone positioning, intraocular pressure was remeasured within the first hour of the patient returning to the supine position. After the prone positioning period, the intraocular pressure in the dependent and independent eye was 15.58 ± 3.65 mmHg and 11.58 ± 2.57 mmHg respectively. There was a statistically significant difference ($P<0.001$). Increase of intraocular pressure, venous stasis, and conjunctival and lid oedema are all factors that could contribute to acute vision loss resulting from possible ischaemic neuropathy (Lee et al, 2006). Particular attention should be paid to possible ocular complications in intensive care unit patients that need prone positioning, because of this asymmetric increase of intraocular pressure.

Author details

¹Department of Intensive Care Medicine, Glenfield Hospital, Leicester, UK

²Ophthalmology Department, Leicester Royal Infirmary, Leicester, UK

References

- Lee LA, Roth S, Posner KL et al. The American Society of Anesthesiologists Postoperative Visual Loss Registry: analysis of 93 spine surgery cases with postoperative visual loss. *Anesthesiology*. 2006;105(4):652–659. quiz 867–868. <https://doi.org/10.1097/00000542-200610000-00007>
- Soare C, Nowak VA, Osborne S. Eye Care in Intensive Care (EyeCU) Group. Eye care in the intensive care unit during the COVID-19 pandemic and beyond. *Anaesthesia*. 2020. <https://doi.org/10.1111/anae.15154>

How to cite this article: Deol S, Hanna-Jumma S, Tsaousis KT. Eye care in the intensive care unit: intraocular pressure in prone patients with COVID-19. *Br J Hosp Med*. 2020. <https://doi.org/10.12968/hmed.2020.0353>