Indocyanine green dye administration can cause oxygen desaturation

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Received: 30 August 2012 / Accepted: 10 December 2012 / Published online: 19 December 2012
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Indocyanine green (ICG) video-angiography is used intra-operatively to visualize the vascular integrity during neurovascular surgical procedures [1]. Oxygen desaturation following ICG injection has not been described previously nor is it mentioned in the list of adverse effects of the dye by the manufacturer.

We report here a 42-year-old female who underwent clipping of the basilar artery aneurysm. The ICG dye (AurogreenTM, Aurolab, Madurai, India) was injected at the recommended dose of 0.25 mg/kg before clip application to visualize the vessels and their branches. After clipping, ICG was repeated to confirm correct clip placement and patency of parent and perforator vessels. On both occasions, there was reduction in the pulse-oximeter saturation reading (99–96 %), the decrease more after the second dose (94 %). We had a monitor (Radical-7 Pulse CO-Oximeter (Masimo Corporation, Irvine, CA) where we observed that the methemoglobin level too increased during desaturation from 0.2 to 0.9 % and gradually returned to previous value in 8 min along with return of saturation to 99 %. The patient did not

have any complications associated with these changes. This finding was reproducible and consistent in other patients as well. Decreased pulse-oximeter reading has been observed in dogs following ICG administration [2]. Therefore, though the change is insignificant and transient, it is desirable that this effect be listed by the manufacturer in the list of side effects. Caution should be exercised when repeat doses of ICG are administered especially within short periods of time.

References

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