

[NM-266] Fluorescein: How Much is Too Much?

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Complications of fluorescein intravenous injection (IV) are relatively rare and unreported in the pediatric literature. We report a case of fluorescein overdose injection in an infant. A 2-month old male weighing 4.7 kg was brought to the operating room (OR) for retinal angiography under anesthesia. According to manufacturing guidelines and package insert, a fluorescein dose of 7.7 mg/kg should be calculated for children, with a documented maximum dose of 500 mg.¹ Proper dosing of fluorescein for this child based on weight would be 36 mg. After the 36 mg was administered, no effect was seen by the surgeon, so a maximum dose of 500 mg was requested and administered. This resulted in a dose 14 times the recommended dose. Skin discoloration is a known side effect of the drug, and within minutes of injection, the patient's entire body became a prominent orange-yellow color. Due to apnea risk in the former 32-weeker, a 23-hour observation had been planned. Vitals were monitored and stable through out the stay. The only manifestation of fluorescein side effects observed was discoloration in secretions and urine. Skin discoloration remained for approximately 10 hrs and secretions for approximately 23 hrs.

Fluorescein is a hydrocarbon that responds to light energy between 465 and 490 nm. It is commonly used for ophthalmic angiography. The main adverse effect of systemic fluorescein is discoloring of the skin, sclera, mucous membrane, and bodily fluids.² In addition to discoloration; other common side effects documented in adults includes nausea (3%), emesis (1%), rash, skin necrosis and extravasation at injection site. Cardiovascular complications are extremely rare, with a reported incidence of 1:5300, and a death rate of 1:222,000. ^{3,4}

Despite receiving 14 times the recommended dose of fluorescein, the infant in this case had no adverse effects to the medication.

1) http://www.akorn.com/documents/catalog/sell_sheets/17478-253-10.pdf, REV 05/12

2) Kwan A, Barry C, McAllister I, Constable I. Fluorescein angiography and adverse drug reactions revisited: the Lions Eye experience. *Clinical and Experimental Ophthalmology* 2006; 34: 33-38.

3) Jennings BJ, Mathews DE. Adverse reactions during retinal fluorescein angiography. *Journal of the American Optometric Association* 1994; 65: 465-71.

4) Lipson B, Yannuzzi L. Complications of Intravenous fluorescein injections. *International Ophthalmology Clinics* 1989; 29: 200-5.


