We report the first case of an infant who experienced transient decline in pulse oximetry measurements and increased arterial methemoglobin levels after injection of isosulfan blue, an aqueous subcutaneously administered contrast agent used for the delineation of lymphatic vessels. In our patient, a 9-month-old girl, pulse oximetry values declined to a low of 85% approximately 30 minutes after administration of the dye. When the arterial blood gas was evaluated 195 minutes after subcutaneous administration, the methemoglobin level was 6.5% (normal, 0 to 1%). To determine whether the abnormal methemoglobin concentration was spurious, we compared absorption spectra for isosulfan blue and methemoglobin. The similar spectra suggested that interference by the dye caused the abnormal result. To investigate the phenomenon further, we simulated the blood gas analysis in vitro. The abnormal results were reproduced, and found to vary depending on the blood gas analyzer used. To confirm that the elevated level was spurious, the samples were analyzed by a reference method. We conclude that methemoglobin levels, in addition to pulse oximetry measurements should be interpreted with caution when isosulfan blue has been administered.

Summary

We present the first patient (9 months old) who developed factitious methemoglobinemia after the administration of isosulfan blue.