Learning points for clinicians

Transient cortical blindness is a rare complication of contrast media use seen in cerebral and coronary angiography. Computed tomography typically shows occipital gyral and subarachnoid hyperdensity. The blindness is self-limiting, resolving within 2–4 days of onset.

Case report

A 60-year-old man who had previous coronary artery bypass graft surgery with a left internal mammary artery (LIMA) graft, underwent a coronary angiogram to investigate multiple episodes of angina. His only other significant past medical history was well-controlled hypertension. The patient was previously exposed to iodinated contrast media with no history of reaction. His pre-procedural blood pressure and renal function was noted to be normal. No premedication was used. During injection of the LIMA, the patient complained of blurring of vision which deteriorated to near total blindness within minutes. On examination, the patient was able to only differentiate light from dark and unable to do finger counting. The pupils were equal in size and responsive to light. The rest of the neurological examination was normal. The blood pressure during the procedure was high (190/100 mmHg) and the patient also complained of a headache. The procedure was abandoned and a Computed tomography (CT) brain was requested urgently. The plain CT brain revealed symmetrical subarachnoid and gyral hyperdensity in both occipital lobes (Figure 1). No effacement of the sulci or...
mass effect was seen. Patient underwent an immediate magnetic resonance imaging which showed normal occipital lobes bilaterally. Patient was then observed in the ward and his blood pressure was kept under control. Over the course of 3 days, his vision progressively improved and was fully recovered on the fourth day post angiogram. A repeat plain CT scan of the brain showed complete resolution of the subarachnoid hyperdensity. He was discharged well on the very same day.

Discussion

Transient cortical blindness is a well-recognized but rare complication of contrast media use during angiographic procedures. Its incidence in cerebral angiograms have been reported as between 1 and 4%.\(^1\) It is much less reported as a result of coronary angiography with a reported incidence of <0.05%.\(^2\) Coronary angiography in a patient with bypass grafts is thought to be a risk factor for this complication. Yazici \textit{et al.}\(^3\) reviewed 18 cases of transient cortical blindness following coronary angiography and found that 11 of the patients had bypass grafts. Frantz\(^4\) presented 15 patients with this complication and showed 6 patients to have LIMA grafts and 9 patients to have arterial hypertension, highlighting these two features as potential risk factors. All patients developing this condition were reported to have regained their sight with no permanent neurological deficit, as in our patient. In previously reported cases, vision returned to normal between 48 and 96 h of onset.\(^5\)\(^6\) No specific measures can are known to prevent or reduce the risk against this rare complication. The repeat use of iodinated contrast media in patients who have previously developed transient cortical blindness has been shown to be safe. Rama \textit{et al.}\(^6\) exposed three patients and Akhtar \textit{et al.}\(^5\) exposed a single patient to iodinated contrast media following previous transient cortical blindness with no repeat of symptoms. The general advice however is to limit contrast media exposure and pre-treatment with steroids before re-exposure to contrast media in patients who have previously experienced transient cortical blindness due to the limited evidence available.

Conflict of interest: None declared.

References