

Paralytic ileus after bilateral intravitreal injection of bevacizumab

Sir,

There are few reports of systemic adverse events associated with intravitreal injection of bevacizumab (IVB). Rare systemic events include formed visual hallucinations,^[1] erectile dysfunction,^[2] and acute decrease in kidney function.^[3] We recently experienced a case of paralytic ileus after bilateral IVB, thus herein report the case.

A 47-year-old male patient was screened for diabetic retinopathy. He was admitted to the department of internal medicine with uncontrolled Type 2 diabetes mellitus. The blood sugar test was 496 mg/dL and hemoglobin A1c was 13.6%. At the initial ophthalmic examination, his corrected visual acuity was 20/40 in the right eye and 20/30 in the left eye. The intraocular pressure was 18 mmHg in the right eye and 19 mmHg in the left eye. Slit lamp examination revealed no abnormal findings in anterior segment while the funduscopy examination showed microaneurysms and dot hemorrhages in four quadrants. Fluorescein angiography revealed the neovascularization with leakage of dye in both eyes. The IVB (1.25 mg/0.05 mL) was done in both eyes in the same day with patient's request of prompt treatment. Panretinal photocoagulation was scheduled in both eyes after 2 days; however, the laser photocoagulation could not be done because of patient's severe abdominal pain with vomiting and abdominal distension.

An erect abdominal X-ray demonstrated excess air and niveau in the intestine [Fig. 1]. A computed tomography sagittal scan revealed prominent dilated and air-filled images of the intestinal wall, without apparent lesions [Fig. 2]. Paralytic ileus was diagnosed. Paralytic ileus had improved after conservative treatment with ileus tubing, without surgery.

In our case, the patient had no history of gastrointestinal disorder. Matsuyama *et al.* reported that the plasma vascular endothelial growth factor (VEGF) level decreased markedly as early as 1 day after IVB in patients with diabetic retinopathy.^[4] Thus, it is possible that systemic side effects can develop after IVB as well as after intravenous bevacizumab. Decreased



Figure 1: Erect abdominal X-ray showing excess air and niveau in the intestine



Figure 2: Computed tomography sagittal scan showing prominent dilated and air-filled images of the intestinal wall without apparent lesions

plasma VEGF resulted in the decreased production of nitric oxide,^[5] a known vasodilator. Therefore, decreased VEGF

production can cause vasoconstriction and reduce the supply of gastrointestinal blood flow. Moreover, the patient received bilateral IVB, which might cause the higher plasma VEGF level than in the case of unilateral IVB.

In conclusion, we report on a patient with paralytic ileus after bilateral IVB. In spite of very low incidences, the physicians should aware of the gastrointestinal disorders such as paralytic ileus following bilateral IVB.

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Conflicts of interest

There are no conflicts of interest.

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References

- Meyer CH, Mennel S, HS, H S, Schmidt JC. Visual hallucinations after intravitreal injection of bevacizumab in vascular age-related macular degeneration. *Am J Ophthalmol* 2007;143:169-70.
- Yohendran J, Chauhan D. Erectile dysfunction following intravitreal bevacizumab. *Middle East Afr J Ophthalmol* 2010;17:281-4.
- Pell2 G, Shweke N, Duong Van Huyen JP, Tricot L, HessaTri S, Fr, Frricot L, V, *et al.* Systemic and kidney toxicity of intraocular administration of vascular endothelial growth factor inhibitors. *Am J Kidney Dis* 2011;57:756-9.
- Matsuyama K, Ogata N, Matsuoka M, Wada M, Takahashi K, Nishimura T. Plasma levels of vascular endothelial growth factor and pigment epithelium-derived factor before and after intravitreal injection of bevacizumab. *Br J Ophthalmol* 2010;94:1215-8.
- Hood JD, Meininger CJ, Ziche M, Granger HJ. VEGF upregulates eNOS message, protein, and NO production in human endothelial cells. *Am J Physiol* 1998;274 (3 Pt 2):H1054-8.

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