Safety

Data on the safety of intravitreal bevacizumab are more limited than data on ranibizumab or pegaptanib safety because there are no large, prospective, controlled safety studies with this treatment.

Local side-effects are similar to those found for the other anti-VEGF agents[(98)].

A safety retrospective study evaluating the side effects of intravitreal bevacizumab reviewed 1265 patients for 12 months, with 92 lost to follow-up.

Ocular complications included seven (0.16%) bacterial endophthalmitis, seven (0.16%) tractional retinal detachments, four (0.09%) uveitis, and a case (0.02%) of rhegmatogenous retinal detachment and another case (0.02%) of retinal detachment and vitreous hemorrhage[(99)].

In electrophysiological studies no negative side-effects were seen on the retina. In contrast, the results showed a recovery effect on photoreceptors even at the site of the CNV(100).

Most of the in vitro, ex vivo and in vivo experiments excluded short-term negative effects on ocular cells and histology[(101, 102, 103, 104, 105)].

A paper, however, discloses mitochondrial disruption in the inner segment of photoreceptors and apoptosis after high doses of intravitreal bevacizumab in the rabbit eye.

The electrophysiological investigation and light microscopy, in contrast appeared unaltered.

This suggests that potential side-effects on the cellular level cannot be detected with the present diagnostic tools in clinical practice[(98, 106)].

Intravenous use of bevacizumab in patients with colorectal cancer is associated with severe systemic side effects including arterial thromboembolism, gastrointestinal perforation, hemorrhage, hypertensive crisis and nephrotic syndrome.

Initial studies using this therapy intravenously for ocular disease in a healthier population did not find nearly the same risks[(107, 108)].

The dose of intravitreal bevacizumab is much lower (1/400th) of the dose used for intravenous treatment and has not been found to result in unexpected systemic side effects[(92)].

There are no studies adequately undertaken to identify rare systemic events.

In a 3-month retrospective study of bevacizumab treatment in 266 patients, 1 (0.4%) developed a nonfatal myocardial infarction after the third injection.

Two patients (0.8%) had apparent transient ischemic attacks (diagnosis was not definitive).

There were 2 deaths, one from myocardial infarction.

Nevertheless, that patient was a smoker with a history of emphysema.

It is important to consider, however, that this population (mean age, 80.3 years) is at risk for myocardial infraction regardless of treatment.

Any potential safety concerns remain unknown and waiting for randomized and controlled clinical trials.

View PDF