

Inflammation in Patients Receiving Aflibercept, Bevacizumab, or Ranibizumab: Analysis of 936,926 Intravitreal Injections

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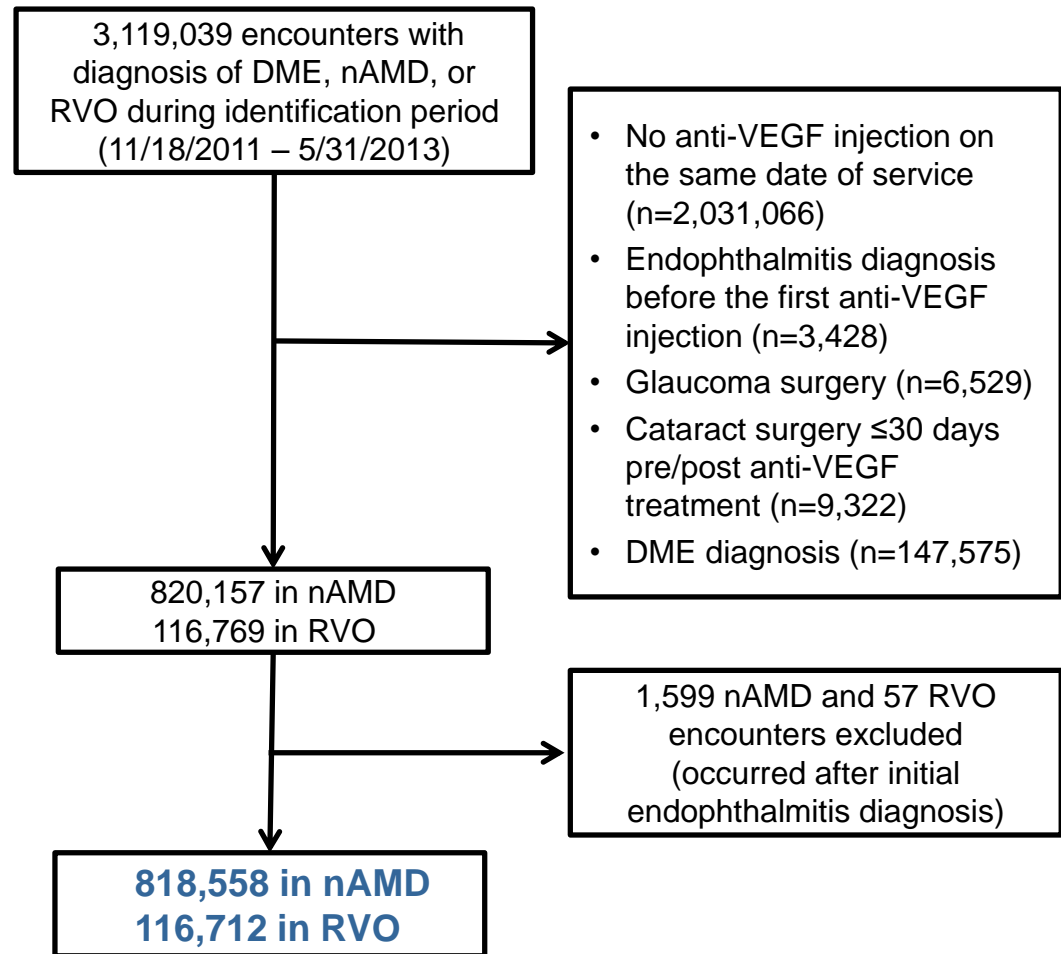
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Objective and Methods

- Objective:
 - To examine inflammation in clinical practice following intravitreal injection of aflibercept, bevacizumab, or ranibizumab in patients with neovascular age-related macular degeneration (nAMD) or central retinal vein occlusion (RVO)
- Comparisons are made between:
 - Ranibizumab injection (Lucentis[®])
 - Aflibercept injection (Eylea[®])
 - Bevacizumab injection (Avastin[®])
- Outcomes:
 - Risk of endophthalmitis stratified by anti-VEGF use for nAMD or RVO
- Study period:
 - November 18, 2011–June 30, 2013
- Database:
 - Wolters Kluwer Health's Source[®] Lx database (HIPAA-compliant administrative claims database)

Inclusion Criteria and Patient Identification

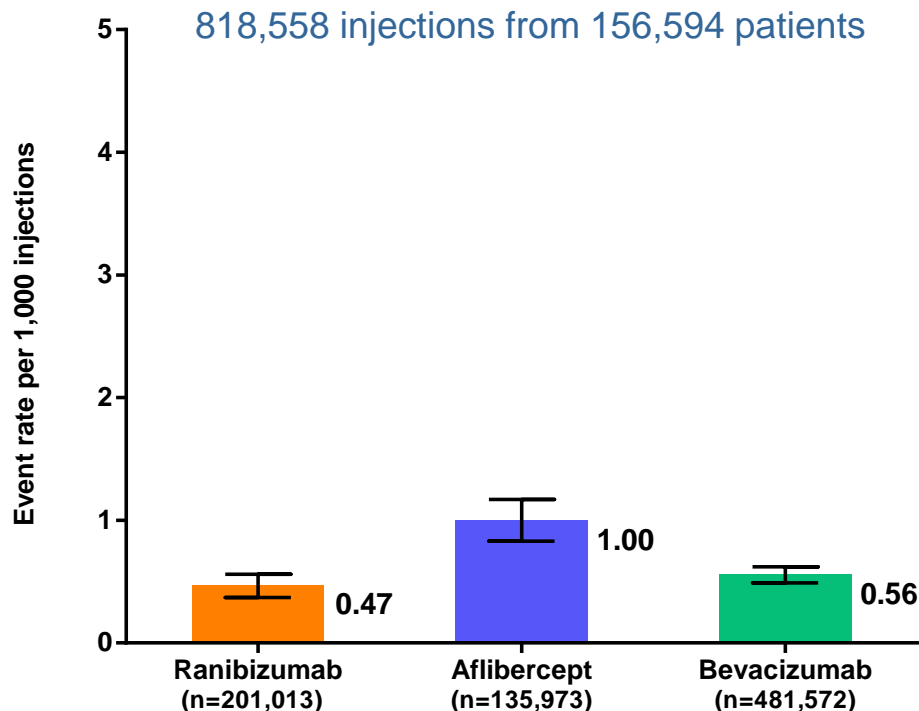
- This claim analysis included encounters with a
 - Diagnosis of nAMD^a or RVO^b during the identification period (11/18/11–5/31/2013) **AND**
 - A claim^c for intravitreal anti-VEGF injection^d on the same date of the selected diagnosis
- Date of encounter = date of anti-VEGF injection
- Each encounter was followed for 30 days^e for claims for endophthalmitis^f (surrogate marker for inflammation)



Risk of Endophthalmitis Stratified by Anti-VEGF Therapy and Indication

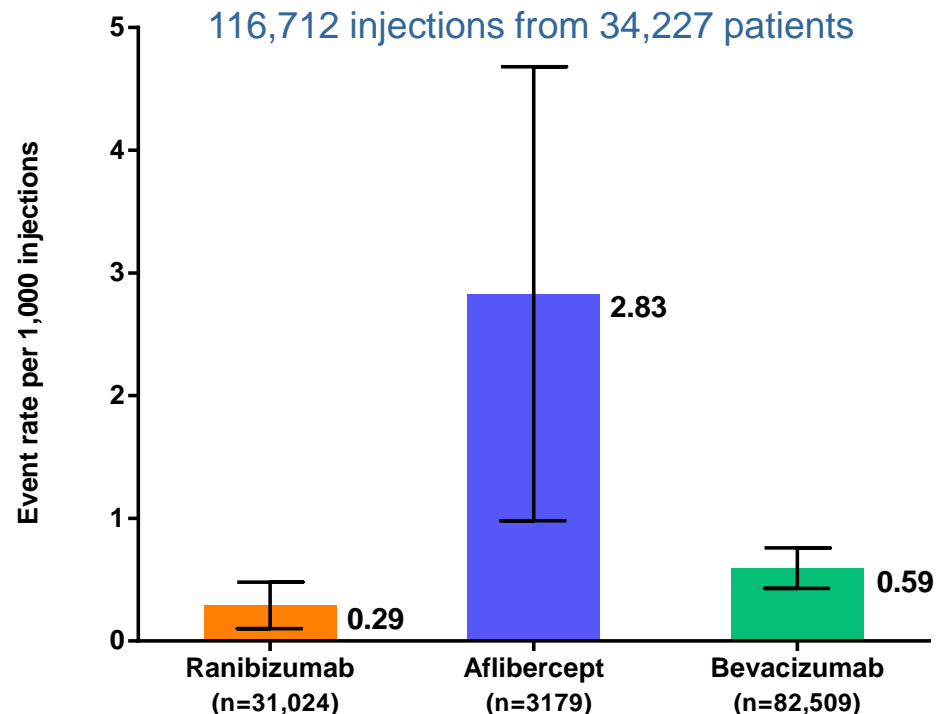
nAMD

818,558 injections from 156,594 patients



RVO

116,712 injections from 34,227 patients



| Repeated Measures Analysis for Risk of Endophthalmitis | Adjusted Odds Ratio (95% CI) | P value |
|--|------------------------------|--------------|
| Aflibercept vs. Ranibizumab | 2.19 (1.68-2.85) | $P < 0.0001$ |
| Bevacizumab vs. Ranibizumab | 1.17 (0.93-1.49) | $P = 0.18$ |

| Repeated Measures Analysis for Risk of Endophthalmitis | Adjusted Odds Ratio (95% CI) | P value |
|--|------------------------------|--------------|
| Aflibercept vs. Ranibizumab | 9.59 (3.82-24.02) | $P < 0.0001$ |
| Bevacizumab vs. Ranibizumab | 2.13 (1.04-4.37) | $P = 0.04$ |

Conclusions

- This claims database analysis was conducted to evaluate real-world experiences of inflammation following intravitreal anti-VEGF injections in patients with nAMD or RVO
- In nAMD and RVO patients, rates of inflammation were higher following intravitreal injection with aflibercept compared with both ranibizumab and bevacizumab
 - In nAMD patients, the difference between ranibizumab and bevacizumab was not statistically significant
 - In RVO patients, rates of inflammation were higher for bevacizumab compared with ranibizumab ($P = 0.04$)