



# BCVA Gains With Aflibercept 8 mg Maintained Through Week 96 in the PULSAR Phase 3 Trial With Extended Treatment Intervals in Patients With nAMD

***Manjot K. Gill, MD, MS, FRCS(C), FASRS***

Professor of Ophthalmology & Medical Education

Director of Vitreoretinal Fellowships

Northwestern University Feinberg School of Medicine, Chicago, Illinois, USA

***Sobha Sivaprasad,<sup>1</sup> Jean-François Korobelnik,<sup>2,3</sup> on behalf of the PULSAR study investigators***

<sup>1</sup>NIHR Moorfields Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom

<sup>2</sup>CHU Bordeaux, Service d'Ophthalmologie, Bordeaux, France

<sup>3</sup>University of Bordeaux, INSERM, BPH, UMR1219, F-33000 Bordeaux, Bordeaux, France

## **Financial Disclosures:**

MKG has received consulting fees from Regeneron and Roche/Genentech. The PULSAR study (NCT04423718) was sponsored by Bayer AG (Leverkusen, Germany) and co-funded by Regeneron Pharmaceuticals, Inc. (Tarrytown, NY, USA). The sponsor participated in the design and conduct of the study, analysis of the data, and preparation of this presentation. Medical writing support, under the direction of the authors, was provided by ApotheCom and funded by Bayer Consumer Care AG (Basel, Switzerland), in accordance with Good Publication Practice (GPP) guidance (*Ann Intern Med* 2022;175:1298–1304).



# METHODS

**PULSAR: a 2-year, 3-arm, randomized, double-masked study (NCT04423718)**

**Patients with treatment-naïve nAMD, randomized at baseline  
1 (2q8) : 1 (8q12) : 1 (8q16)**

	YEAR 1													YEAR 2												
	Day 1	W4	W8	W12	W16	W20	W24	W28	W32	W36	W40	W44	W48	W52	W56	W60	W64	W68	W72	W76	W80	W84	W88	W92	W96	
2q8 <sup>a</sup> (n=336)	X	X	X		X	o	X	o	X	o	X	o	X	o	X	o	X	o	X	o	X	o	X	o	–	
8q12 <sup>a</sup> (n=335)	X	X	X		<u>o<sup>b</sup></u>	<u>X<sup>b</sup></u>	o	o	<u>X<sup>b</sup></u>	o	o	<u>X<sup>b</sup></u>	o	o	<u>X<sup>b,c</sup></u>	o	o	<u>X<sup>b,c</sup></u>	o	o	<u>X<sup>b,c</sup></u>	o	o	<u>X<sup>b,c</sup></u>	o	–
8q16 <sup>a</sup> (n=338)	X	X	X		<u>o<sup>b</sup></u>	<u>o<sup>b</sup></u>	<u>X<sup>b</sup></u>	o	o	o	<u>X<sup>b</sup></u>	o	o	o	<u>X<sup>b,c</sup></u>	o	o	o	<u>X<sup>b,c</sup></u>	o	o	o	<u>X<sup>b,c</sup></u>	o	–	

Primary endpoint at W48:  
Mean change in BCVA (non-inferiority)

### <sup>b</sup>DRM: Interval Shortening During Years 1 and 2

#### Criteria for interval shortening

- >5-letter loss in BCVA compared with Week 12 due to persistent or worsening nAMD **AND**
- >25 µm increase in CRT compared with Week 12, OR new foveal neovascularization, OR new foveal hemorrhage

### <sup>c</sup>DRM: Interval Extension During Year 2

#### Criteria for interval extension

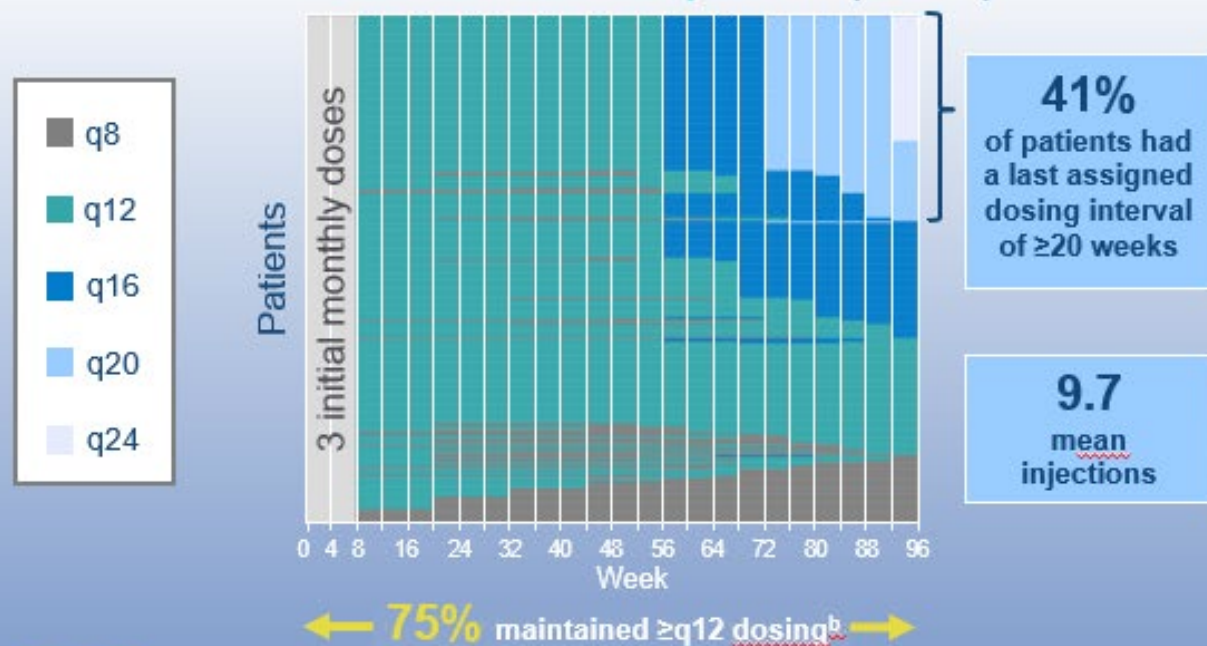
- <5-letter loss in BCVA compared with Week 12 **AND**
- No fluid at the central subfield on OCT **AND**
- No new foveal hemorrhage or foveal neovascularization

Figure does not reflect all dosing options once a patient's dosing interval is shortened or extended. Stippled boxes = initial treatment phase; X = active injection; o = sham injections. <sup>b</sup>Each after 3 initial monthly injections. 2q8, aflibercept 2 mg every 8 weeks; 8q12, aflibercept 8 mg every 12 weeks; 8q16, aflibercept 8 mg every 16 weeks; BCVA, best-corrected visual acuity; CRT, central subfield retinal thickness; DRM, dose regimen modification; nAMD, neovascular age-related macular degeneration; OCT, optical coherence tomography; W, week.

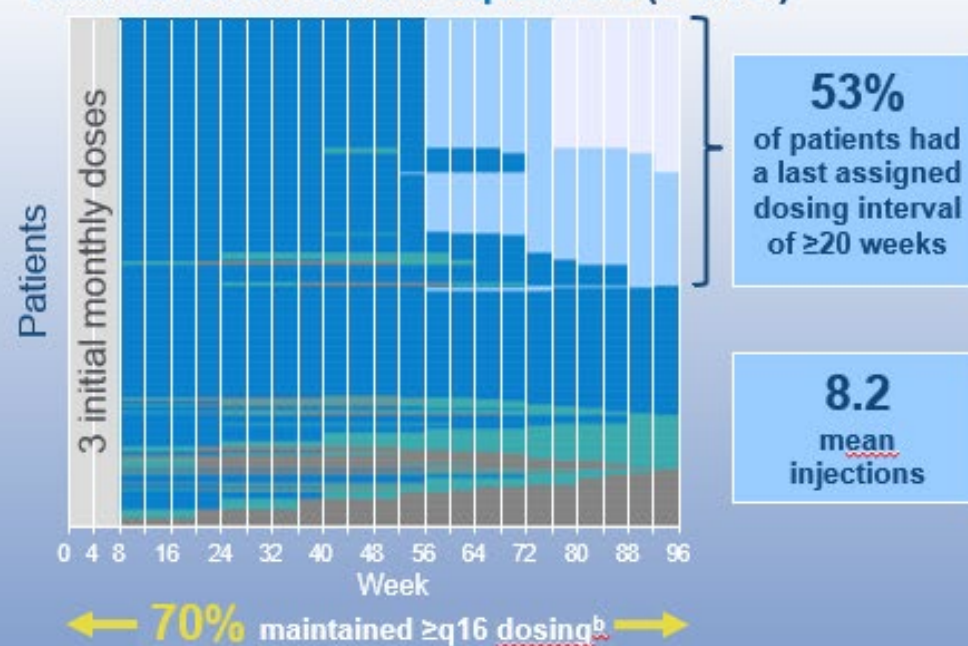
# RESULTS

- There were no marked differences in baseline characteristics between groups
- Changes in BCVA and CRT from baseline through Week 96 were comparable between treatment arms

Patients randomized to 8q12 at BL (n=291<sup>a</sup>)



Patients randomized to 8q16 at BL (n=292<sup>a</sup>)



The safety profile of aflibercept 8 mg was comparable to that of aflibercept 2 mg and no new safety concerns were identified

SAF. <sup>a</sup>Data are for Week 96 completers. <sup>b</sup>Through Week 96.

BL, baseline; SAF, safety analysis set; q8, every 8 weeks; q12, every 12 weeks; q16, every 16 weeks; q20, every 20 weeks; q24, every 24 weeks.



# DISCUSSION

- Aflibercept 8 mg groups achieved similar BCVA gains compared with the aflibercept 2 mg group at Week 96
- Anatomic improvements in PULSAR for aflibercept 8 mg were maintained over time through Week 96
- At Week 96, **75%** of patients randomized to receive aflibercept 8q12 maintained  $\geq$ q12 dosing intervals and **41%** achieved  $\geq$ q20 dosing intervals; **70%** of patients randomized to receive aflibercept 8q16 maintained  $\geq$ q16 dosing intervals and **53%** achieved  $\geq$ q20 dosing intervals
- The safety profile of aflibercept 8 mg was comparable to that of aflibercept 2 mg over 96 weeks