Comment on: Alternate description of waveform: Pulsus bisferiens

Dear Sir,
We read the article written by Kassem et al.[1] in January with great interest. It described the path to diagnosing significant aortic insufficiency starting with abnormal ocular pulse amplitude (OPA) obtained with a dynamic contour tonometer. The OPA waveform obtained showed two peaks instead of one. The abnormal waveform described in this paper shows great resemblance to an arterial waveform described as “pulsus bisferiens.” This potential correlation was not mentioned by the authors.

The term “pulsus bisferiens” was described in the context of aortic valve disease by Broadbent and Broadbent in 1900.[2] Fleming described the mechanism of pulsus bisferiens in 1957 in patients with combined aortic stenosis and insufficiency. More recently, Mark published depictions of pulsus bisferiens in his atlas of monitoring.[3] As an anesthesiologist frequently using invasive blood pressure monitoring, it is not uncommon to observe “pulsus bisferiens” displayed when taking care of patients with significant aortic insufficiency. We attached two figures demonstrating “pulsus bisferiens” in patients with aortic insufficiency, showing waveform variations [Figs. 1 and 2].

If intraocular pressure closely relates to the arterial pressure, it comes as no surprise that the waveform would resemble...
an arterial waveform. As the authors are that suggesting OPAs might be used as a screening tool for other diseases, we would suggest thinking of “pulsus bisferiens” when noticing a waveform with two peaks, and direct a further workup toward aortic valve disease.

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Conflicts of interest
There are no conflicts of interest.

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References
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