

Intravitreal ranibizumab versus aflibercept versus bevacizumab for macular oedema due to central retinal vein occlusion: the LEAVO non-inferiority three-arm RCT

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†In memoriam

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Plain English summary

The LEAVO non-inferiority three-arm RCT

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Plain English summary

The eye functions like a camera. The retina, at the back of the eye, is the camera film, and the centre, the macula, allows us to see fine details. Approximately 6500 people each year in England and Wales are affected by fluid leaking out of congested tiny blood vessels, causing macular swelling or oedema. The cause is blockage of the main vein that normally drains blood from the retina.

Three drugs, injected into the eye in tiny amounts every 4–8 weeks, have been shown to improve the vision of people with this condition. Two drugs, ranibizumab (0.5 mg/0.05 ml Lucentis®; Novartis International AG, Basel, Switzerland) and aflibercept (2 mg/0.05 ml Eylea®; Bayer AG, Leverkusen, Germany), are licensed for UK use, but the third, bevacizumab (1.25 mg/0.05 ml Avastin®; F. Hoffmann-La Roche AG, Basel, Switzerland), is not, even though it is much cheaper and used extensively worldwide. To our knowledge, no trials have compared the three drugs over the typical 2-year treatment period.

This multicentre, Phase III, double-masked, randomised controlled non-inferiority trial comparing the clinical effectiveness and cost-effectiveness of intravitreal therapy with ranibizumab (Lucentis) versus aflibercept (Eylea) versus bevacizumab (Avastin) for macular oedema due to central retinal Vein Occlusion (LEAVO) was designed to compare ranibizumab, aflibercept and bevacizumab in this type of macular oedema. The trial showed that all three drugs improved vision a lot, but bevacizumab improved vision to a slightly lesser degree than the other two drugs. All patients should be aware of these findings before considering their treatment options.

A comparison of the costs and benefits of ranibizumab, aflibercept and bevacizumab, using data from the trial and other sources, found that all three led to similar improvements in quality of life. Because aflibercept and ranibizumab are so much more expensive, they may be poor value for money. If patients, their representatives and funders all agree, it may be possible to treat this type of macular oedema with bevacizumab, which is cheaper, keeping the other agents available if needed.

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This report

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