

Indications and Visual Outcomes of Intravitreal Anti Vascular Endothelial Growth Factor Agents for Retinal Diseases

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Background: Vascular endothelial growth factors (VEGF) play a pivotal role in the occurrence of retinal neovascularization, choroidal neovascularization and retinal vascular permeability. The use of anti VEGF has revolutionized the treatment of these diseases with reports of efficacy, reversal of visual loss and even regaining of lost vision^[1]. The aim was to determine the indications and treatment outcomes for use of intravitreal antiVEGF agents in retinal diseases among patients in a tertiary hospital in Nigeria.

Methods: The case folders of patients who had intravitreal injections of antiVEGF from January 2012 to December 2014 were analyzed. Data retrieved included age, sex, indication, type of intravitreal anti VEGF used, number of injections, visual acuity, treatment outcomes, complications and follow up duration.

Results: There were 27 patients made of 12 males and 14 females with a mean age of 61.8±7.8 (range 46-76) years. Intravitreal antiVEGF were administered in both eyes of 14(51.9%) patients. Bevacizumab and ranibizumab were utilized in 36(87.8%) and 3(7.3%) eyes respectively. Two (4.9%) eyes had both bevacizumab and ranibizumab during treatment switching from ranibizumab to bevacizumab. A total of 72 injections were administered during the study period with a mean number of 2.4 ±1.5 (range 1- 8) injections administered per eye. The most common indication was diabetic macular oedema in 17(40.5%) eyes. The indications for intravitreal antiVEGF are presented in Table 1. After treatment, vision improved in 21(51.2%) eyes and was unchanged in 10(24.4%) eyes. Eyes which initially improved, worsened in 10(24.4%) eyes following cessation of treatment. The visual

outcome after intravitreal antiVEGF is presented in Table 2. The most common complication encountered was subconjunctival haemorrhage in 15(36.6%) eyes. The mean duration of follow up was 12.4±6.8 (range 4 - 26) months.

Table 1: Indications for use of intravitreal anti-vascular endothelial growth factors

Indications	Number of eyes (%)
Diabetic macula oedema	17 (41.5)
Retinal Vein occlusion with macula oedema	10 (24.4)
Neovascular AMD	7 (17.1)
Proliferative diabetic retinopathy with vitreous haemorrhage	3 (7.3)
Neovascular glaucoma	2 (4.9)
Inflammatory CNVM	1 (2.4)
Myopic CNVM	1 (2.4)
Total	41(100.0%)

Key: CNVM= Choroidal neovascular membrane, AMD= Age related macular degeneration

Table 2: Visual outcome in treated eyes

Visual Acuity	Pre- treatment (%)	Post treatment @ last follow up visit (%)
>6/18	10 (24.4)	19 (46.3)
6/18- 6/60	19 (46.3)	14 (34.1)
<6/60	12 (29.3)	8 (19.5)
Total	41 (100.0)	41 (100.0)

Discussion and Conclusion: Intravitreal antiVEGFs are effective in the management of many retinal conditions. These retinal diseases include diabetic macular oedema, retinal vein occlusion with macular oedema, neovascular age related macular degeneration and other causes of choroidal neovascular membrane^[1]. However, these patients require multiple injections ranging from 1 to 8 within two years in this study which increases the burden of care including costs. This could have been higher as payments for health care are predominantly "out of pocket" and these injections are not necessarily cheap. This need for multiple injections and risk of complications from the procedure are among the drawbacks of this treatment modality requiring alternative treatment strategy. Intravitreal antiVEGFs could be included in the National Health Insurance Scheme list of

approved drugs so more persons benefit. This is important with the rising prevalence of diabetes mellitus in the country which could translate to increased diabetic related eye complications such as diabetic macula oedema and proliferative diabetic retinopathy^[2,3].

References

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