Hypertensive Phase Following Silicon Plate Ahmed Glaucoma Valve Implantation

To the Editor:

We read with interest the article titled, “Hypertensive Phase Following Silicone Plate Ahmed Glaucoma Valve Implantation” by Hun Jae Won and Kyung Rim Sung.1 In this well-organized study, the author had investigated about incidence and risk factors for developing hypertensive phase (HP) following silicon plate Ahmed glaucoma valve (AGV) implantation. We appreciate the author’s effort and research work. The results have also been discussed very well.

HP is a phenomenon of common occurrence following AGV implantation and has been reported up to 80% in various studies.2–4 We would like to share our personal experience of AGV implantation in a series of 61 patients. We found a higher incidence (63.93%) of HP in our series as compared with the present study (31.1%). This could be because of higher percentage (75.4%) of secondary refractory glaucoma with uncontrolled intraocular pressure (IOP) in our series. Encapsulation of the plate early in the postoperative period is thought to be responsible for this early rise in IOP.4 Proinflammatory cytokines are found at higher levels in aqueous of the eyes with encapsulated blebs and higher IOP.5 Therefore, the eyes with secondary refractory glaucoma such as neovascular glaucoma, glaucoma following keratoplasty, and post-vitreoretinal surgery, etc. with chronic inflammation have higher chance of developing HP.

We agree with the author’s interpretation of the current study that higher preoperative IOP was associated with the HP development. However, we also found aphakia as a risk factor for HP in our series, with 92.85% (13 of the 14) aphakic patients developing HP.

In our series, HP resolved by the end of 6 months in 92.86% patients; however, only 17.86% patients were completely off medications. Patients undergoing AGV implantation need frequent follow-up in early postoperative period to reduce the incidence of IOP spikes. Complete success rate of AGV implant is limited in patients who develop HP. Various methods have been tried to increase the success rate, such as the use of early aqueous suppressant therapy6 and digital massage7 in patients who develop HP.

However, by far this is definitely a well-conducted study with large sample size. This study definitely tells us about the importance of preventing early postoperative IOP spikes to achieve higher complete success rate.

REFERENCE


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In Reply:

I greatly appreciate the interest Dr Sharma has shown in our article entitled “Hypertensive phase (HP) following silicon plate Ahmed glaucoma valve (AGV) implantation.”1 With regard to the incidence of HP, 31.1% of the participants developed HP in our series; this incidence was lower than that reported by other studies or by Dr Sharma’s analysis.2,3 As mentioned in our paper, HP may be less frequent after silicon plate AGV implantation. However, I agree with Dr Sharma’s comment that a higher percentage of secondary refractory glaucoma with uncontrolled intraocular pressure (IOP) in his series may have contributed to the variation in outcomes. Although direct comparison of the pre-AGV implantation diagnosis between this study and that of Dr Sharma would be difficult, our series had 3 cases of aphakia. In our multivariate analysis, higher IOP before AGV implantation was the most significant risk factor; however, secondary refractory cases tended to have higher IOP. Therefore, our results may support Dr Sharma’s suggestion. A significant finding is that only 23% of our patients who developed HP could be completely weaned off the medication at postoperative 1 year; additionally, Dr Sharma mentioned that only 17.86% of their patients were completely weaned off the medications at 6 months postoperatively. Hence, patients who experience HP may need intensive postoperative IOP-lowering medication, although increased use of IOP-lowering medication in the HP group may be explained by the trend for continued use of IOP-lowering medication despite achieving IOP.

References


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