

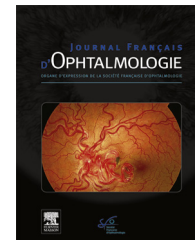


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SFO COMMUNICATION

Ahmed glaucoma valve in various etiologies of refractory glaucoma: Surgical outcomes and success factors[☆]



Résultats à moyen terme de l'implantation de la valve d'Ahmed dans différentes étiologies de glaucome réfractaire

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KEYWORDS

Ahmed glaucoma valve;
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Efficacy;
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Neovascular glaucoma;
Refractory glaucoma;
Diabetic retinopathy

Summary

Purpose. — To study the epidemiology and mid-term results of the Ahmed glaucoma valve (AGV) in various etiologies of refractory glaucoma in a Lebanese center, and to assess complications and factors that influence the surgical success rate.

Methods. — In this retrospective epidemiological study, we reviewed 108 eyes with refractory glaucoma that underwent an AGV implantation in a tertiary care center in Lebanon between January 2002 and August 2014. Findings including best-corrected visual acuity (BCVA), intra-ocular pressure (IOP), number of antiglaucoma medications, factors influencing the surgical outcome, success rate and complications were also reviewed.

Results. — The mean duration of follow-up was 29.85 ± 21.45 months [range, 3–60 months]. As in other Arab countries and compared to the rest of the world, the rate of neovascular glaucoma (NVG) was particularly high, occurring in 63 eyes (58.3%), and represented the primary cause of refractory glaucoma. Mean IOP was significantly reduced to 17.97 ± 7.35 mmHg at

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MOTS CLÉS

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Rétinopathie
diabétique

the last follow-up visit ($P < 0.05$). Similarly, a significant decrease was noted in the number of antiglaucoma medications ($P < 0.05$). The surgical success rate, defined as a postoperative IOP < 21 , was significantly higher (62.0%), in older patients, those with baseline BCVA ≤ 2 LogMAR and those with a history of hypertension ($P < 0.01$). Hyphema was the most noted complication. **Conclusion.** – The AGV is a safe and effective procedure for lowering IOP in refractory glaucoma patients, with hyphema being the most frequent complication. Both the presence of hypertension and initial BCVA ≤ 2 LogMAR seem to increase the success rate of the procedure. NVG remains the most common etiology for implantation, probably due to uncontrolled diabetes in the Middle East and North Africa.

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Résumé

Objectif. – Étudier l'épidémiologie et les résultats à moyen terme de la valve d'Ahmed (VA) dans différentes étiologies de glaucome réfractaire et évaluer les complications ainsi que les facteurs pouvant influencer le taux de succès chirurgical.

Méthodes. – Il s'agit d'une étude épidémiologique rétrospective. Cent huit yeux atteints de glaucome réfractaire ont subi une implantation de VA dans un centre hospitalier tertiaire au Liban entre janvier 2002 et août 2014. La meilleure acuité visuelle corrigée (MAVC), la pression intraoculaire (PIO), le nombre de médicaments antiglaucomateux, ainsi que les complications et les facteurs pouvant exercer une influence sur le taux de succès chirurgical ont été évalués.

Résultats. – La durée moyenne du suivi était de $29,85 \pm 21,45$ mois (marge, 3–60 mois). Le taux de glaucome réfractaire lié au glaucome néovasculaire (GNV) était particulièrement élevé (58,3 %), ce qui corrélait avec l'épidémiologie des études faites dans les pays Arabes de voisinage. La PIO moyenne a été significativement réduite à $17,97 \pm 7,35$ mmHg lors de la dernière visite ($p < 0,05$). De même, une diminution significative du nombre de médicaments antiglaucomateux a été notée ($p < 0,05$). Le taux de réussite chirurgicale, définie par une PIO postopératoire < 21 mmHg, était significativement plus élevé (62,0 %) chez les patients âgés, hypertendus et ceux ayant été opérés avec une MAVC de base ≤ 2 LogMAR ($p < 0,01$). La complication la plus fréquente était l'hyphéma.

Conclusion. – La VA est une procédure sûre et efficace pour réduire la PIO chez les patients glaucomateux réfractaires. L'hypertension artérielle et une MAVC de base ≤ 2 LogMAR semblent augmenter le taux de réussite chirurgicale. Le GNV reste l'étiologie la plus fréquente probablement à cause du diabète mal contrôlé dans la région du Moyen-Orient et d'Afrique du Nord.

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Introduction

The Ahmed glaucoma valve (AGV, New World Medical, Inc., Rancho Cucamonga, California, USA) was implanted for the first time in 1993 for patients with high intra-ocular pressure (IOP) that had not responded to medical treatment, laser photocoagulation, or previous glaucoma surgery [1]. Its effectiveness in lowering IOP and reducing number of last visit antiglaucoma medications has since then been established in many studies, and overall reported success rates varied between 54% and 78.7% at 4 years [2–4].

To prevent excessive aqueous drainage and anterior chamber collapse, the AGV has an autoregulated non-obstructive valvular system that is formed by silicone elastomer membranes held in a polypropylene or silicone body [2]. However, tube insertion is a delicate procedure and a number of complications have been reported follow-

ing surgery, such as tube blockage, retraction, exposure and malposition, as well as more serious complications such as hypotony, hyphema, choroidal detachment and corneal endothelium decompensation with longer follow-ups [2,3,5,6].

Very few studies have been conducted in the Arab population concerning this type of implants. One study was held in Tunis [4] in 2007 and another one in Kuwait [7] in 2012. More recently, Shah et al. [6] followed 40 eyes that underwent an AGV implantation in Oman over a period of 3 months (mo). While the three studies yielded almost comparable results, they were all limited by a small number of participants and a relatively short follow-up period.

The aim of this retrospective study was first to describe the epidemiology of patients with refractory glaucoma that needed an AGV implantation in our center in Lebanon. Once established, the mid-term results of the surgery on

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