

Introduction

Given the need to improve communication between physicians and patients, we assessed whether a 360-degree Virtual Reality (360°VR) visualization platform for face-to-face neurosurgical consultations could enhance patient engagement and satisfaction.

Methods

For each patient, a personalized 360°VR rendering was created from their high-resolution MRI and/or CT scans and was presented using VR headsets (Fig. 1). In total, forty-seven and fourteen patients at UCLA and GWU, respectively, utilized the 360°VR and were prospectively surveyed with consent. One physician consulted all patients at each site. These patients completed eight 5-point Likert scale-based questions (1 = “strongly disagree” to 5 = “strongly agree”) comparing prior (without 360°VR) and current 360°VR consult experience. Wilcoxon signed-rank test was used to calculate statistical significance.

Learning Objectives

- To assess whether immersive VR technology is an effective tool for pre-surgical consultations.
- To examine the extent to which VR technology can help

Results

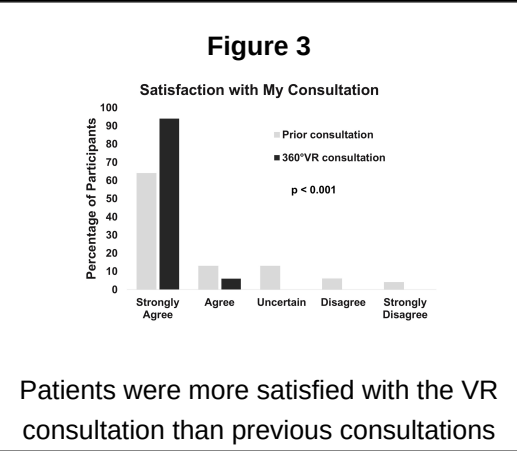
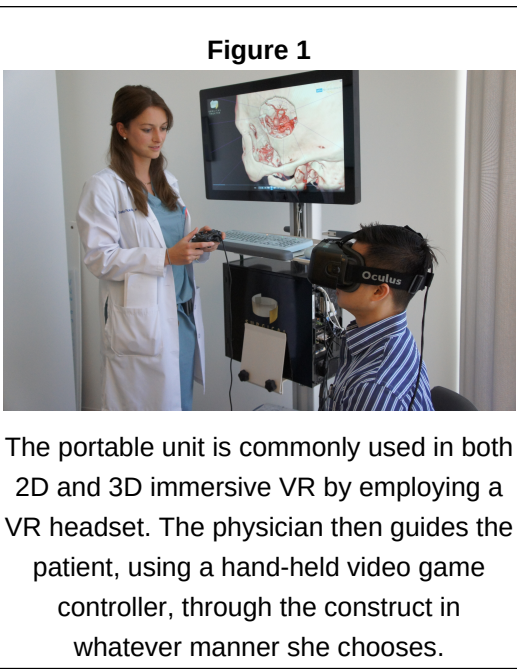
Most patients sought consultation for cerebrovascular pathology (91%) (Figure 2), and 94% at UCLA and 100% at GWU “strongly agreed” that 360°VR helped to improve their understanding and overall satisfaction with the consultation (Fig. 2). At both institutions, patients felt overall satisfaction was significantly improved (Figure 3) ($p<0.05$ UCLA and GWU) and that their neurosurgeon explained their conditions significantly clearer compared to prior consultations ($p<0.001$; UCLA).

Additionally, 91% (UCLA) and 93% (GWU) “strongly agreed”, and 9% (UCLA) and 7% (GWU) “agreed”, that 360°VR helped improve their comfort level with the proposed management options.

All patients (100%) agreed that they understood the different management options well enough to make an informed decision during the consultation, and 96% (UCLA) and 86% (GWU) agreed they selected a management option together with their neurosurgeon during the consultation.

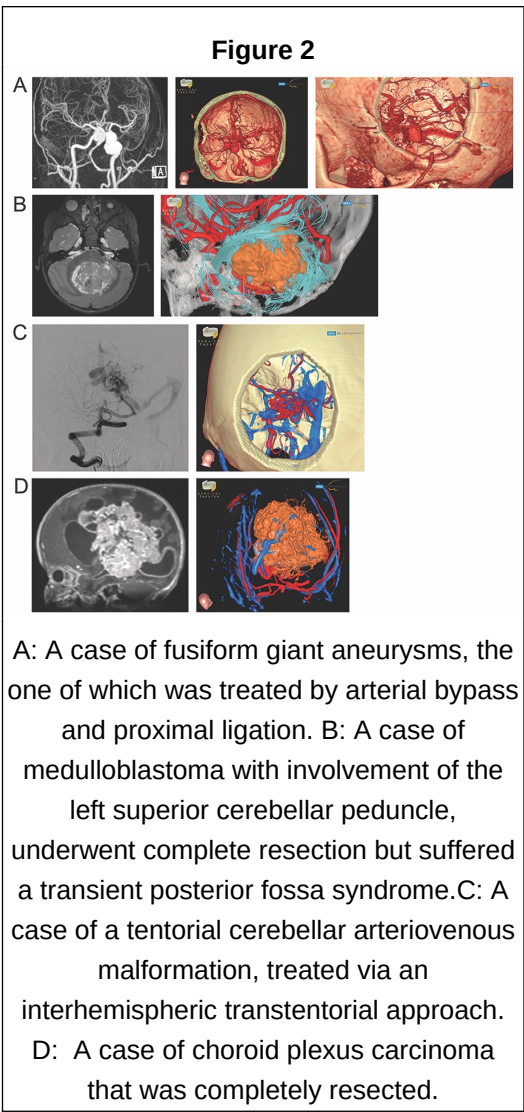
Conclusions

We found enhanced patient engagement and satisfaction as a result of incorporating an immersive 360°VR technology into neurosurgical consultation. Findings from this multi-institutional study support the 360°VR technology as a potential tool to enhance patient education, engagement and



References

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References continued:

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