Comparing Clinical Outcomes of Early Vitrectomy versus Delayed Vitrectomy for Spontaneous, Fundus Obscuring Vitreous Hemorrhage

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Possible causes of fundus obscuring vitreous hemorrhage
- Proliferative diabetic retinopathy
- Retinal vessel occlusion/macroaneurysm
- Vitreous traction
- Retinal tear and/or retinal detachment
- Acute, spontaneous posterior vitreous detachment

Incidence of retinal breaks: 10-15%
PVD associated with VH

Incidence of retinal breaks: 54-91%

Treatment
- Watchful waiting vs. Early surgical intervention

Early intervention: pars plana vitrectomy
  - Benefit
    - Diagnosis as well as treatment
    - Early management of possible retinal detachment
  - Risk
    - Complications associated with surgery
    - Over treatment

Introduction

Patients and Methods

A retrospective observational case series

Inclusion criteria
- Fundus obscuring vitreous hemorrhage due to retinal tear and/or retinal detachment

Exclusion criteria
- Vitreous hemorrhage due to diabetic retinopathy, vascular obstruction, macular degeneration, prior history of retinopathy, recent trauma

Divided into two groups
- Early Intervention (vitrectomy within 1 week of diagnosis)
  - Retinal detachment pattern on B-scan
- Delayed Intervention (vitrectomy after 1 week of diagnosis)
  - No retinal detachment pattern on B-scan
  - Retinal tear or retinal detachment shown as vitreous hemorrhages dissolved with time
  - Patient contraindicated for surgery
  - Patient’s unwillingness, poor general condition

Patient data
- Patient age, gender, involved eye, lens status, best-corrected visual acuity, and B-scan ultrasound results

Outcome measure
- Best-correct visual acuity
- Presence of retinal detachment
- Macular involvement of retinal detachment

Table 1. Basic demographics of two groups

<table>
<thead>
<tr>
<th>Age</th>
<th>Early Intervention Group</th>
<th>Delayed Intervention Group</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>58±4.5</td>
<td>61±4.9</td>
<td>0.572</td>
</tr>
<tr>
<td>Gender</td>
<td>Male 47 (19)</td>
<td>Male 2 (7)</td>
<td>0.415</td>
</tr>
<tr>
<td></td>
<td>Female 13 (9)</td>
<td>Female 15 (13)</td>
<td>0.041</td>
</tr>
</tbody>
</table>

Visual outcome
- No statistically significant difference in two groups
- Results consistent with a recent study

Presence of macula off retinal detachment
- Early Intervention group
  - Includes severe form of retinal detachment with positive retinal detachment pattern on B-Scan
  - Includes hidden retinal detachment not detected on B scan
  - Includes progressed retinal detachment

Conclusion

Visual outcome and presence of retinal detachment
- No statistically significant differences between 2 groups

Consideration
- Early Intervention group: included severe form of retinal data chimen with information obtained by B-scan
- Delayed Intervention group: hidden or progressed retinal detachment

References
1. A prospective study of dense spontaneous vitreous hemorrhage.

2. Early Vitrectomy for Spontaneous, Fundus-Obscuring Vitreous Hemorrhage.

Abbreviations
BCVA: Best corrected visual acuity
RD: Retinal detachment