ACCOMMODATIVE ESOTROPIA

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ACCOMMODATIVE ESOTROPIA

- Accommodation-convergence linkage ("AC/A ratio")
  - Abnormally high
  - Normal but excessive demand (incr hyperopia)
ACCOMMODATIVE ESOTROPIA

- Hypoaccommodation
  - Extra effort (~ increased hyperopia)
  - Over-response (~ high AC/A)
QUESTION 1: TYPICAL AGE OF ONSET OF ACCOMMODATIVE ESOTROPIA

- A. < 1 year
- B. 13-18 months
- C. 2-3 years
- D. 5-6 years
# ACCOMMODATIVE ESOTROPIA: ONSET

<table>
<thead>
<tr>
<th>Age (Parks)</th>
<th>NI AC/A</th>
<th>High AC/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 mos</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>36 mos</td>
<td>74%</td>
<td>71%</td>
</tr>
</tbody>
</table>
QUESTION 1: TYPICAL AGE OF ONSET OF ACCOMMODATIVE ESOTROPIA

- A. < 1 year
- B. 13-18 months
- C. 2-3 years
- D. 5-6 years
ACCOMMODATIVE ESOTROPIA: AC/A

<table>
<thead>
<tr>
<th>AC/A</th>
<th>Parks</th>
<th>Raab</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Normal</td>
<td>43%</td>
<td>50%</td>
</tr>
<tr>
<td>- High</td>
<td>57%</td>
<td>50%</td>
</tr>
</tbody>
</table>
QUESTION 2: THE AC/A RATIO

A. Decreases with age
B. Decreases with surgery
C. Decreases with orthoptics
QUESTION 2: THE AC/A RATIO

- A. Decreases with age
- B. Decreases with surgery
- C. Decreases with orthoptics
ACCOMODATIVE ESOTROPIA: HYPEROPIA

<table>
<thead>
<tr>
<th>Mean Hyperopia</th>
<th>Parks</th>
<th>Raab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal AC/A</td>
<td>+4.75</td>
<td>+3.97</td>
</tr>
<tr>
<td>High AC/A</td>
<td>+2.25</td>
<td>+2.78</td>
</tr>
</tbody>
</table>
QUESTION 3: HYPEROPIA
CHANGES IN MOST CASES

A. Steady decrease from original level
B. Steady increase from original level
C. Increase from original level followed by decrease
D. No change from original level
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CHANGES IN MOST CASES

- A. Steady decrease from original level
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- D. No change from original level
## HYPEROPIA CHANGES (Age 1-7 yrs)

<table>
<thead>
<tr>
<th></th>
<th>Raab</th>
<th>Brown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>68%</td>
<td>69%</td>
</tr>
<tr>
<td>Decrease</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Same</td>
<td>8%</td>
<td>7%</td>
</tr>
</tbody>
</table>
ACCOMMODATIVE ESOTROPIA: Rx

- Initially eliminate *all* accommodative effort
- Taper to small esophoria when securely controlled (usually after age 6 yrs)
- Increase Rx when control unstable
ANTICHOLINESTERASE MIOTICS

- Advantages
  - Infants
  - Control at many distances; no bifocal

- Supposed Advantages
  - Indeterminate case
  - Compliance
BIFOCALS?
DECOMPENSATION

- Eyes no longer acceptably straightened by discouraging accommodation
- Surgical problem
- Goal: restore straight eyes with continuation of accommodation control if necessary
DECOMPENSATION

- Folk 11%
- Raab 17%
- Manley & Parks 20%
- Baker & Parks 48%
QUESTION 4:
DECOMPENSATION IS MORE COMMON IN

- A. High hyperopia cases
- B. High AC/A ratio cases
- C. Same in both types
<table>
<thead>
<tr>
<th>AC/A</th>
<th>Patients</th>
<th>Decompensated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>106</td>
<td>17 (16%)</td>
</tr>
<tr>
<td>High</td>
<td>87</td>
<td>15 (17%)</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
<td>32 (17%)</td>
</tr>
</tbody>
</table>
QUESTION 4: DECOMPENSATION IS MORE COMMON IN

- A. High hyperopia cases
- B. High AC/A ratio cases
- C. Same in both types
PERSISTENCE (Raab)

- More than half (53%) still present after age 10 yrs
- 29% still present after age 12 yrs
- A few never disappear
Can we reduce visits without lowering quality of care?
RAAB STUDY: CONCLUSION

- No decompensation in first year after control
- 2 of observed 54 at 18 months
- 6 of observed 52 at 2 years
RAAB STUDY: CONCLUSIONS

- Most patients do not require stronger treatment in first 2 years after control
- Patients requiring stronger control are not more likely to decompensate
- Age of onset not a risk factor for decompensation
RAAB STUDY: CONCLUSIONS

- After initial control, next exam at 9-12 months is sufficient and does not compromise quality of care

- Exceptions
  - Amblyopia
  - Co-existing vertical / oblique anomalies
  - Monitoring miotics
ACCOMMODATIVE ESOTROPIA

- With Brown, Duane, congen nystagmus
- After surgery for infantile esotropia (masked?)
  - Especially if hyperopia (any level) increases
- After surgery for intermittent exotropia
- Warn parents