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## Chapter 9

### A–V SYNDROME OR PATTERNS

#### I. INTRODUCTION

A or V patterns are present when there is a significant difference in the size of the deviation between up and down gazes.

##### A. Designations

1. A-Patterns
  - a. A-Eso. The esodeviation is greater in up gaze.
  - b. A-Exo. The exodeviation is greater in down gaze.
2. V-Patterns
  - a. V-Eso. The esodeviation is greater in down gaze.
  - b. V-Exo. The exodeviation is greater in up gaze.

##### B. Norms

A significant difference is 10 prism diopters for an A-pattern and 15 prism diopters for a V-pattern. When the deviation is greater in down gaze, the anomaly is worse from a therapeutic point of view because down gaze is used more than up gaze. Consequently, it is particularly important to diagnose a V-eso or A-exodeviation since the V-exo and A-eso are physiologically less disturbing.

#### II. ETIOLOGY

##### A. Obliques

There are three theories or schools of thought regarding etiology. Jampolsky, Costenbader and Parks hold that the additional horizontal deviation on vertical gaze is attributed to the abduction from the obliques.

1. V-Patterns with OAIO

If there is an overaction of the inferior obliques, there is also excessive abduction from the inferior obliques causing less eso and more exo in up gaze.

2. A-Patterns with OASO

If there is overaction of the superior obliques, there is also excessive abduction from the superior obliques on down gaze causing less eso and more exo on down gaze.

B. Horizontal Recti

The second school states that horizontals cause A-V patterns; lateral and medial recti being implicated (Urist). There is some evidence of supranuclear overaction of lateral rectus in upward gaze and overaction of the medial rectus in down gaze.

Use the acronym MALE to remember that Medials are shifted toward the Apex and Laterals toward the Empty space.

C. Vertical Recti

The third group implies that vertical recti are responsible. Miller claims overaction of the inferior rectus may cause V-exo or V-eso and overaction of the superior rectus can cause A-eso or A-exo.

I. SURGERY

A. A-Eso

1. Significant overaction of SO.
  - a. Tenotomy SO, OU.
  - b. In addition to horizontal surgery with a mark A pattern.
2. No SO overaction
  - a. MR surgery – raise insertion.
  - b. LR surgery -lower insertion.

B. A-Exo

1. If significant SO overaction.
  - a. Tenotomy SO, OU.
  - b. In addition to horizontal surgery with a mark A pattern.
2. No SO overaction.
  - a. MR surgery - raise insertion.
  - b. LR surgery - lower insertion.

C. V-Eso

1. Significant IO overaction.
  - a. Myotomy IO, OU or recession IO, OU.
  - b. In addition to horizontal surgery with a mark V pattern.
2. No oblique overaction.
  - a. MR surgery and lower insertion.
  - b. LR surgery and raise insertion.

D. V-Exo

1. Significant IO overaction.
  - a. Myotomy IO, OU or recession IO, OU.
  - b. In addition to horizontal surgery with a mark V pattern.
2. No oblique overaction.
  - a. MR surgery and lower insertion.
  - b. LR surgery and raise insertion.