Botox for 4th and 6th nerve palsies

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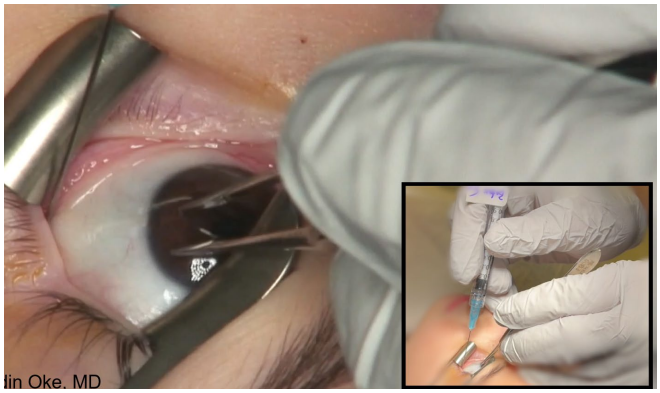
Botox for 4th nerve palsies

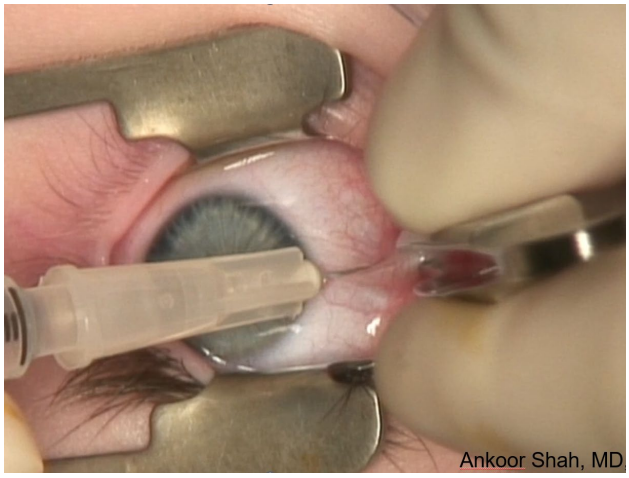
1. Direct injection into the inferior oblique muscle is feasible and has been reported by several authors
2. Technique:
    a. Local or general anesthesia
    b. Approach patient from opposite side
    c. Displace eye superonasally or ask patient to look superonasally
    d. Advance needle behind the equator, equidistant from the inferior and lateral rectus muscle
        i. "Blind" stick – no option to grasp muscle
    e. Inject, maintain position x 10 seconds, remove needle, elevate head of bed



3. Published results:
    a. Bagheri et al (J AAPOS 2006)
        i. 16 adult patients (18 eyes) with acquired SO palsy
            1. <2 years duration
            2. Mostly traumatic
        ii. 6-month follow-up
        iii. Improved HT, torsion, and head tilt
    b. Oke et al (AJO 2021)
        i. 20 pediatric patients with OAIO
            1. V pattern (8 patients)
            2. Hypertropia (7 patients)
            3. Both (5 patients)
        ii. All measures improved short term
        iii. V pattern and clinical overaction improved
        iv. HT in primary gaze recurred
    c. Subsequent / recent papers show similar results

Botox for 6th nerve palsies

1. Patient selection
    a. 40-70% may resolve spontaneously by 6 months
        i. However some patients are very uncomfortable
        ii. Botox may prevent muscle contracture (no data)
        iii. Potential to preserve binocular function in kids who lose compensatory head posture
2. Technique:
    a. Local or general anesthesia
    b. Approach patient from same side
    c. Displace eye temporally or ask patient to look temporally
    d. Grasp muscle technique vs. “blind stick” per surgeon preference
        i. Patients more likely to feel discomfort with grasp muscle technique
        ii. Blind stick approach requires high degree of experience
    e. Inject, maintain position x 10 seconds, remove needle, elevate head of bed



3. Published results (Meta-analysis – Roshanshad et al JPOS 2024)
    a. 31 studies on 6th nerve palsy
    b. 74% recovery rate
    c. Greatest reduction in abduction deficit in individuals with:
        i. Infectious/diabetic etiology
        ii. Higher pre-injection angle
        iii. Shorter duration of follow-up
        iv. Unilateral palsy
        v. Younger age