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Surgical Management of Ptosis – Visual Function and Cosmetic Outcome

Hendriati

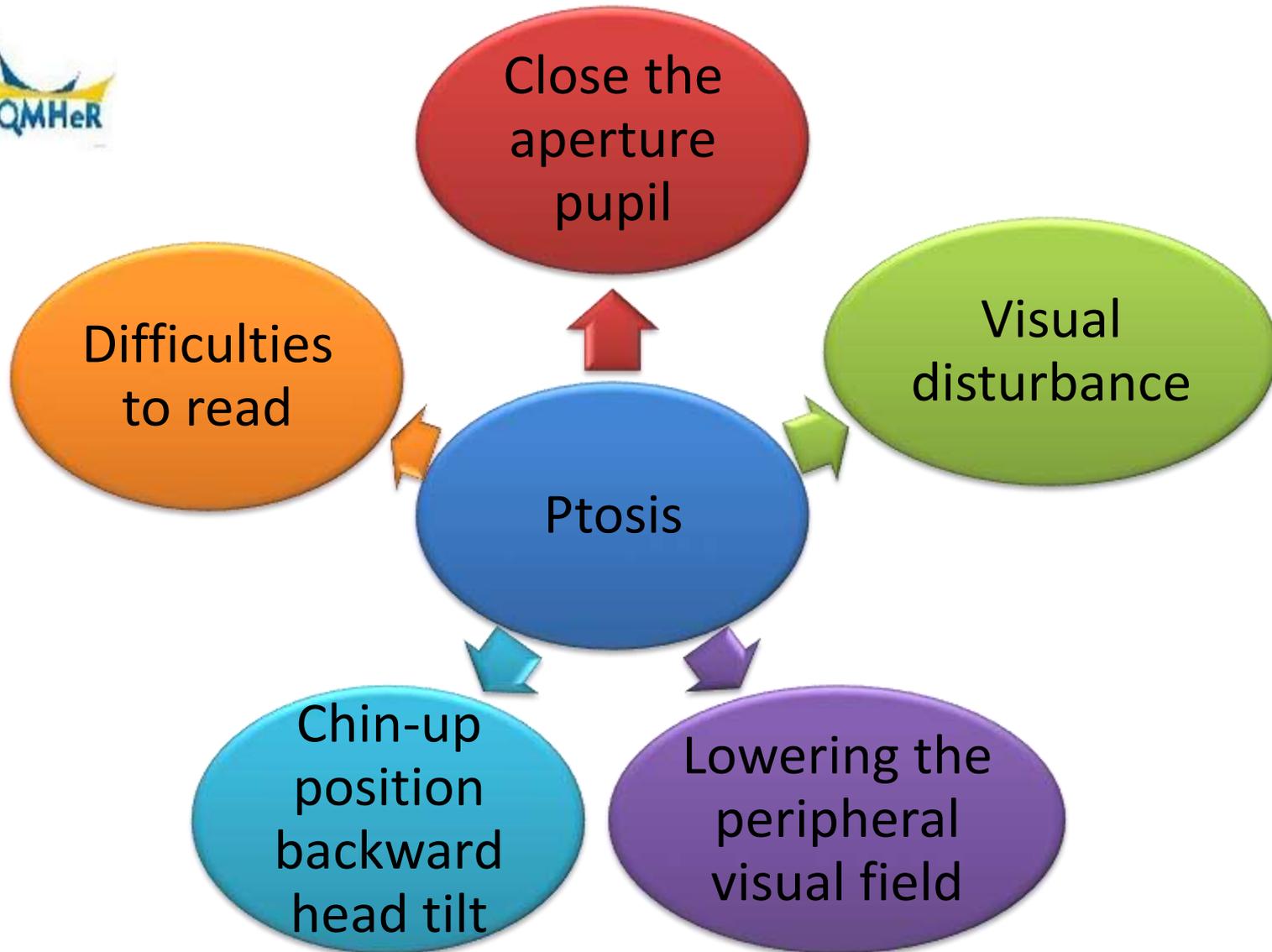
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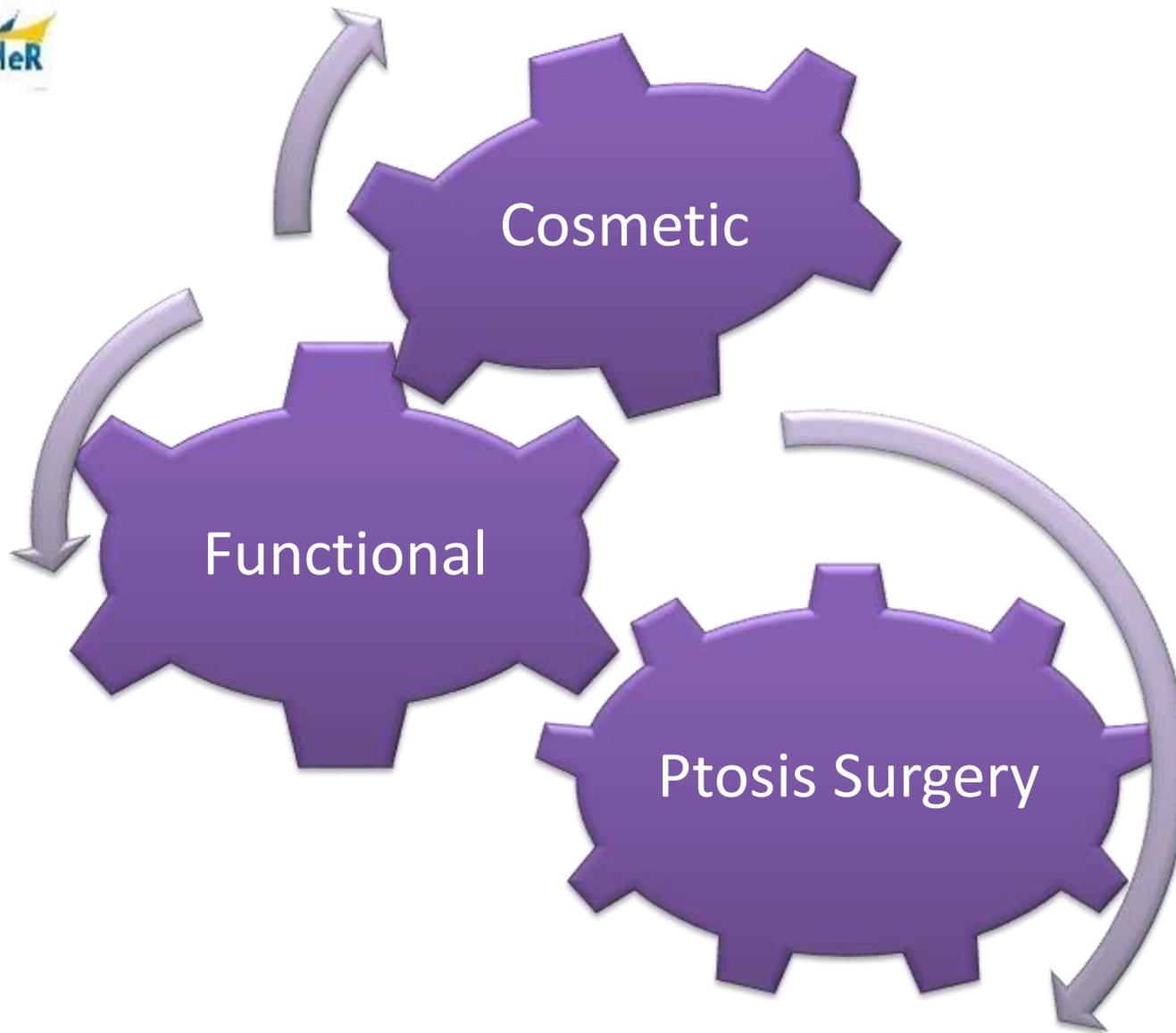


Introduction

Ptosis

Abnormal
drooping of upper
eyelid during
primary position
of the eye







Objective

Evaluate
ptosis
surgery

- Visual function outcome
- Cosmetic outcome



Methods

Retrospective descriptive study from medical record of patients who underwent ptosis surgery during April 2012 – March 2015

Data were obtained from medical record and categorized based on age, sex, diagnosis of ptosis, severity of ptosis, surgical management, cosmetic outcome and visual function.



Methods

Study population: ptosis patients who underwent levator resection, frontalis suspension procedure with fascia lata and Y-V plasty in Dr. M. Djamil Central Hospital from April 2012 to March 2015.

Cosmetic outcome was categorized as good if both eyelids asymmetry was less than 1mm, mild if both eyelid asymmetry was 1,5 mm 2 2 mm, and poor if both eyelid asymmetry was more than 2 mm.

Visual function outcome was evaluated by opening of visual axis from eyelid elevation after ptosis procedure with 1 month follow up. Improvement was defined as $MRD_1 +2$, and MRD_1 less than +2 was defined as no improvement.



Result

During the period of April 2012 to March 2015: 21 ptosis with involvement of 30 eyelid, 9 cases (42,9%) were unilateral and 12 (57,1%) were bilateral.

The majority of patients were 11-20 years old (38,1%), with the youngest 4,5 years old and the oldest 70 years old.

Twelve cases (57,1%) affected male and 9 cases (42,9%) affected female..



Sex and Age Distribution

Group of Age	Sex		Total
	Male	Female	
0-10	4	-	4 (19,1%)
11-20	4	4	8 (38,1%)
21-30	2	3	5 (23,8%)
31-40	-	-	- (0%)
41-50	-	2	2 (9,5%)
51-60	1	-	1 (4,75%)
61-70	1	-	1 (4,75%)
Total	12 (57%)	9(43%)	21(100%)



Ptosis distribution based on laterality

Laterality	Total (cases)	%
Unilateral	12	57.1
Bilateral	9	42.9
Total	21	100



Distribution based on classification

Type of ptosis		Total (case)	%
Congenital	Isolated congenital	10	47.6
	Blepharophimosis syndrome	1	4.7
Acquired	Myasthenia gravis	2	9.5
	CPEO	2	9.5
	Neurogenic	1	4.7
	Traumatic	1	4.7
	Aponeurosis	4	19.3
Total		21	100



Severity of Ptosis Based on Levator Function

Type of Ptosis	Levator function (eyelid)			Total
	Good ($\geq 8\text{mm}$)	Fair (5-7mm)	Poor ($\leq 4\text{mm}$)	
Isolated congenital	1	2	10	13 (43.3%)
Blepharophimosis syndrome	-	2	-	2 (6.7%)
Myasthenia gravis	-	4	-	4 (13.3%)
CPEO	-	4	-	4(13.3%)
Neurogenic	1	-	-	1 (3.3%)
Traumatic		1	-	1 (3.3%)
Aponeurosis	3	2	-	5 (16.7%)
Total	5(16.7%)	15 (50%)	10 (33,3%)	30 (100%)

Table 5. Severity of Ptosis Based on Amount of Ptosis



Type of ptosis	Amount of ptosis			Total
	Mild ($\leq 2\text{mm}$)	Moderate (3 mm)	Severe ($\geq 4\text{mm}$)	
Isolated congenital	2	3	8	13 (43.3%)
Blepharophimosis syndrome	-	-	2	2 (6.7%)
Myasthenia gravis	-	4	-	4 (13.3%)
CPEO	1	1	2	4(13.3%)
Neurogenic	-	-	1	1 (3.3%)
Traumatic	-	-	1	1 (3.3%)
Aponeurosis	1	1	3	5 (16.7%)
Total	4 (13.3%)	9 (30%)	17 (56.7%)	30 (100%)



Type of Ptosis and Various Techniques

Type of ptosis	Technique			Total
	Levator resection	Frontalis suspension	Y - V	
Isolated congenital	1	7	-	8 (57.2%)
Blepharophimosis syndrome	-	-	2	2 (14.2%)
Aponeurosis	2	-	-	2 (14.2%)
Traumatic	1	-	-	1 (7.1%)
CPEO	1	-	-	1(7.1%)
Total	5 (35.7%)	7 (50%)	2 (14.2%)	14 (100%)



Visual Function Outcome After Ptosis Surgery

Surgical Procedure	Visual Function Outcome (eyelid)		Total
	MRD1 +2	MRD1 <+2	
Frontalis suspension using Fascia lata	6	1	7 (50%)
Levator resection	4	1	5 (35,7%)
Y to V	2	-	2(14,3%)
Total	12 (85,7%)	2 (14,3%)	14 (100%)



Cosmetic Outcome After Ptosis Surgery

Surgical Procedure	Asimetric Between 2 Eyelid			Total
	Good ($\leq 1\text{mm}$)	Moderate (1.5 -2mm)	Poor ($> 2\text{mm}$)	
Levator Resection	5	-	-	5 (41.7%)
Frontalis suspension	2	3	1	6 (50%)
Y to V	1	-	-	1 (8.3%)
Total	8 (66.7%)	3 (25%)	1(8.3%)	12 (100%)



Discussion

- Of the 21 cases, 9 cases was unilateral and 12 cases was bilateral. The most common age range 11-20 years (38.1%).
- More than half of the cases dominated by men (57%) with the most common cause is simple congenital ptosis (47.6%).



Griepentorg et al

- ptosis largely dominated by men (55%) and women (45%) with an average age range under 19 yo, and 84.3% were diagnosed with simple congenital ptosis

Baiyeroju et al

- 52% aged less than 16 yo and only 8% over 50 yo. The majority (68%) was unilateral cases and 56% of cases are congenital



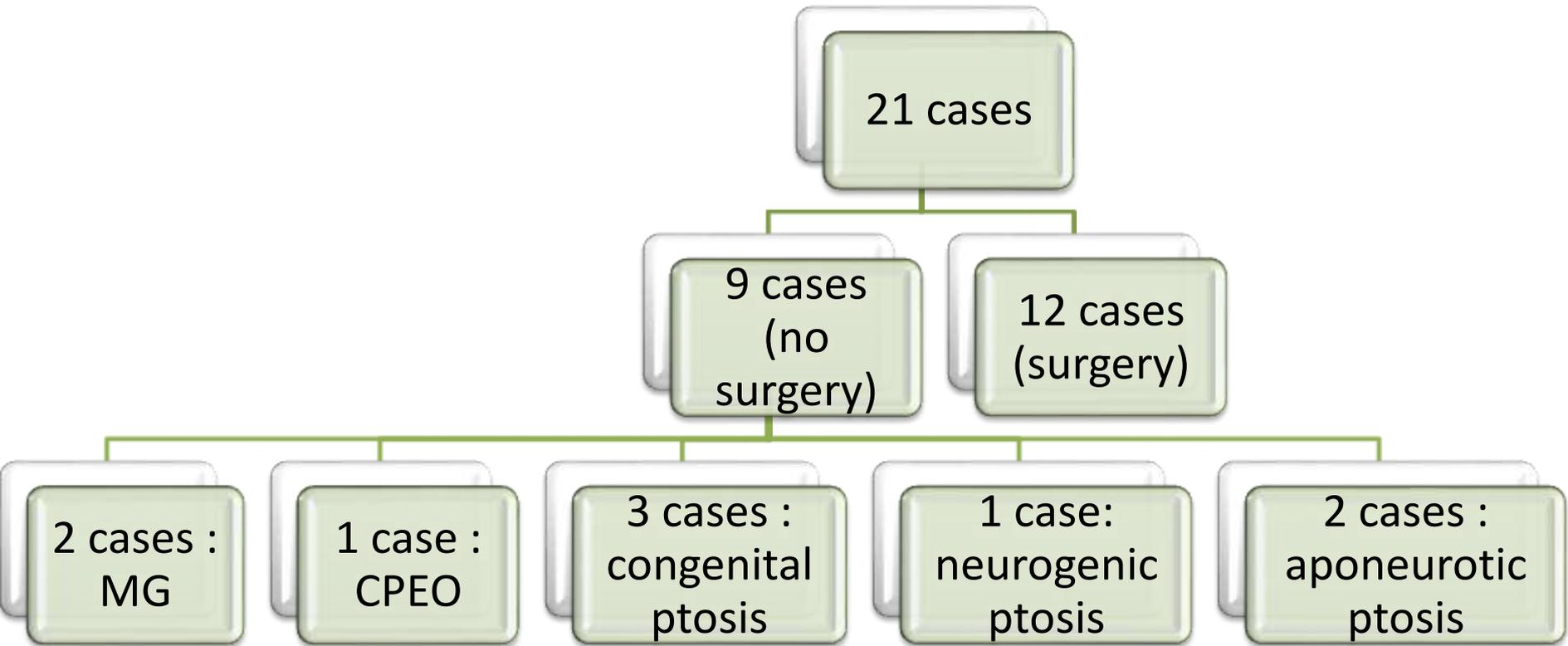
congenital ptosis is due to myogenic dysgenesis of the levator muscle

impairing the ability of the levator to contract and elevate the eyelids.

the majority of congenital ptosis have poor levator function and the degree of severe ptosis

fibrous and adipose tissue

reduction or absence of functional muscle



5 patients with moderate levator function, performed levator resection procedure

7 patients with poor levator function, performed the frontalis suspension procedure

Type of ptosis, ptosis degree and levator muscle function



frontalis
suspension
using fascia
lata

The risk of infection is
minimal, the risk of
rupture extrusion and
minimal and have great
viability and
compatibility



Frontalis suspension

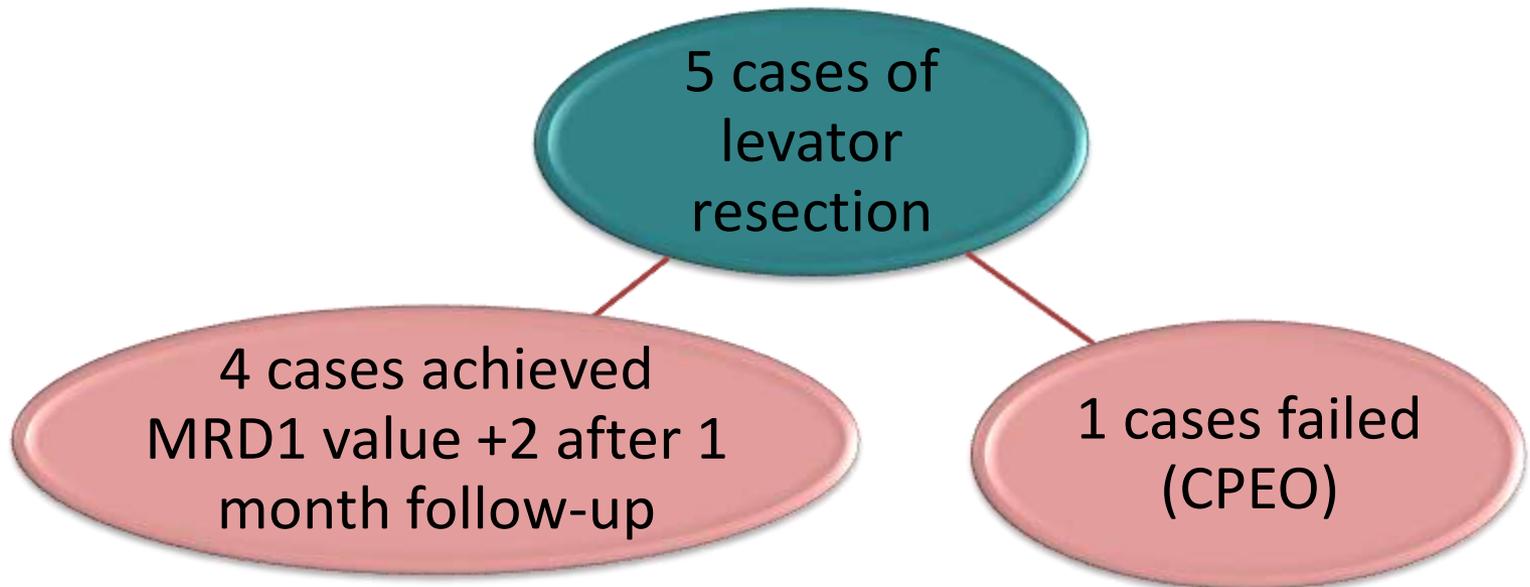
- 6/7 cases of congenital ptosis achieved MRD1 value +2 after 1 month follow-up

Rizvi et al

- 82.6% success rate in congenital ptosis with frontal suspension procedure.

Kim et al

- vertical palpebral fissures increase around $3:24 \pm 1:14$ mm postoperative frontal suspension with fascia lata on congenital ptosis.



Cates and Tyers

- success rate of about 75% of 100 patients with congenital ptosis

Rizvi et al

- success rate 76% in ptosis with levator function more than 4 mm

Berlin et al

- 69% success rate in 52 cases of congenital ptosis

Jordan et al

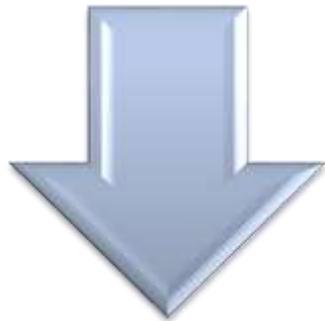
- the success of 43% in 288 cases



Controversion in CPEO surgery



Schaefer : frontalis suspension surgery with fascia lata in young patients, and performed undercorrection of 1-2 mm



Some other researchers: operations procedure based on levator function

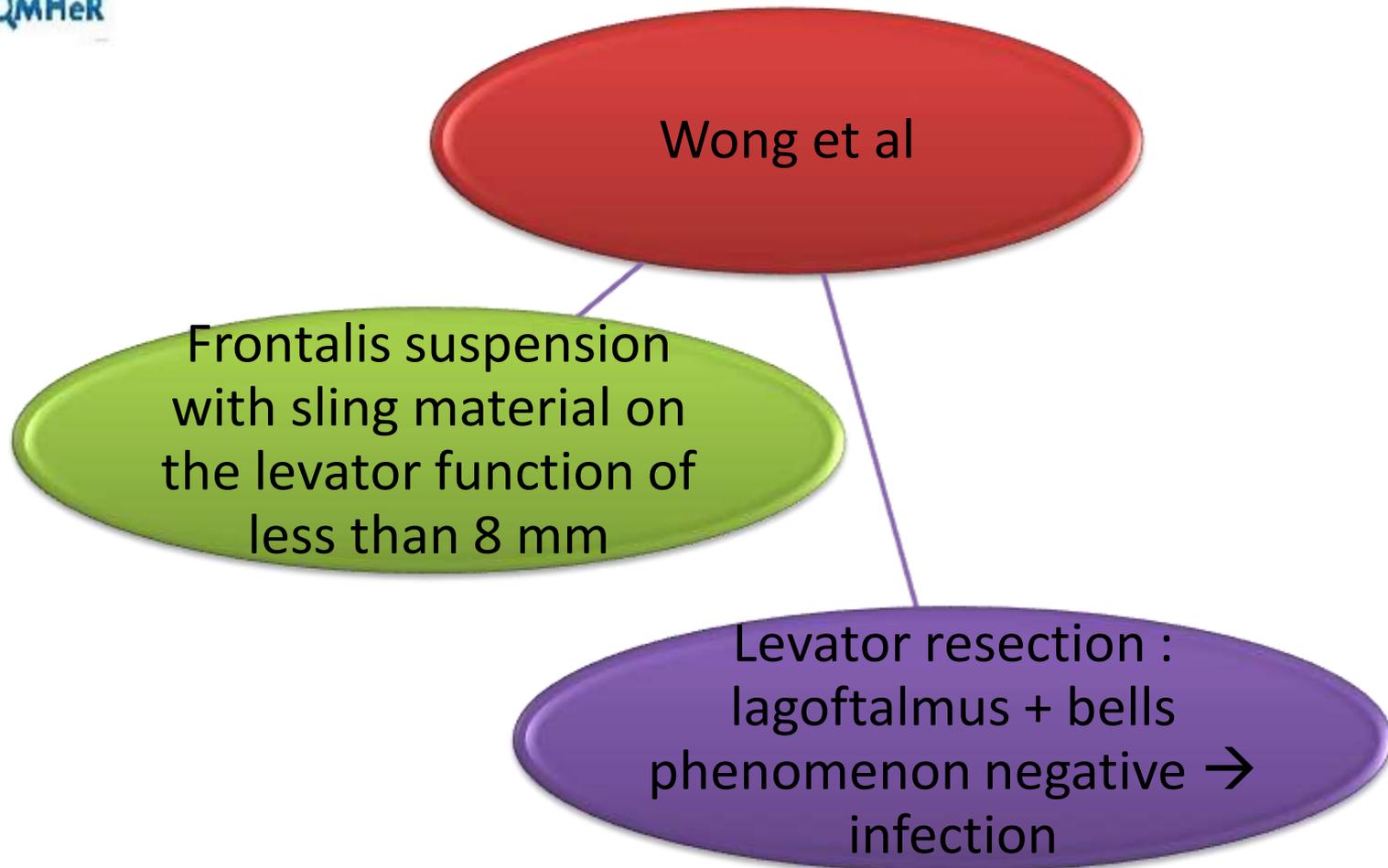


Lane and Colin (17 cases of CPEO)

levator advancement in 7 patients (LF > 4 mm): increase in eyelid aperture of about 7.6mm

8 patient underwent frontal suspension with fascia lata : increase in eyelid aperture of about 6.5 mm

2 other patients who underwent ptosis prop.





Blepharofimosis syndrome

Y-V Procedure

Telecanthus and
epicanthus inversus

Cosmetic
outcome

66.7% had
good cosmetic

Rizvi et al

79% had good
cosmetic



Conclusion

- The choice of ptosis surgery procedures based on the value of levator function. This surgical procedure provides good visual function and good cosmetic outcome.

Thank you

