

MLD

=		=				MLD(margin	
limbal distance)		1995	5	1998	2		
		17	21				
	3.5 mm	7.0 mm		4.9±1.2 mm	6.0 mm		
가 14 (66.4%)				3.0 mm	8.0 mm		5.3±
1.7 mm	5.0 mm	8.0 mm	가 13 (61.9%)		MLD 0		5.0
mm	1.5±1.4 mm	3.0mm		가 16 (76.2%)			
	10.0 mm	22.0 mm	16.0 mm	18.0 mm	가 10	가	
				8.0 mm	8	5	
(62.5%)	3	6.0 mm				가	
가 4	3 (75%)						
		13	10 (76.9%)			가 1.0 mm	
	, 3	1.5	2.5 mm				
						MLD가	
	(41:2247 ~ 2253,	2000).				

= Abstract =

Surgical Results of Levator Resection using the MLD (Margin Limbal Distance) in Congenital Blepharoptosis

< : 2000 3 28 , : 2000 8 21 >

Address reprint requests to Sang Jin Kim, M.D.
 Department of Ophthalmology, Ajou University School of Medicine
 San 5, Wonchon-dong, Paldal-ku, Suwon, 442-749, Korea
 Tel : 82-31-219-5260, Fax : 82-31-219-5259, E-mail : ajoueye@madang.ajou.ac.kr

* 1999 82

Hong Seok Yang, M.D., Jae Hong Ahn, M.D.,
Sang Jin Kim, M.D., Yong Sub Han, M.D.

In pediatric patients with congenital blepharoptosis, intraoperative decision of the amount of levator resection is difficult due to general anesthesia. We performed levator resection in 21 eyes of 17 patients with congenital blepharoptosis to evaluate the usefulness of the formula derived from the margin limbal distance(MLD) which was used to determine the amount of levator resection preoperatively.

The amount of ptosis(interpalpebral fissure: IPF) was between 3.5 mm and 7.0 mm (mean 4.9 ± 1.2 mm), and less than 6.0 mm in 14 cases (66.4%). The levator function by Berke method was between 3.0 mm and 8.0 mm (mean 5.3 ± 1.7 mm), and between 5.0 mm and 8.0 mm in 13 cases (61.9%). The margin limbal distance was between 0 and 5.0 mm (mean 1.5 ± 1.4 mm), and less than 3.0 mm in 16 cases(76.2%). The amount of levator resection was between 10.0 mm and 22.0 mm, and between 16.0 mm and 18.0 mm in 10 cases(47.6%) which was most frequent.

Of 4 patients(8 eyes) with bilateral blepharoptosis, excellent results(IPF 8.0 mm) were achieved in 5 eyes(62.5%) and the other 3 eyes had fair results with IPF of over 6.0 mm. Three patients(75.0%) with bilateral blepharoptosis had symmetric IPF within 1.0 mm difference. In unilateral blepharoptosis, excellent results were achieved in 10(76.9%) of 13 patients with IPF difference within 1.0 mm, and the other 3 patients had an IPF difference of 1.5 2.5 mm.

The MLD formula gives the surgeon a good preoperative prediction of the amount of levator to resect, especially in pediatric patients with congenital blepharoptosis to undergo surgery under general anesthesia(J Korean Ophthalmol Soc 41:2247~2253, 2000).

Key Words : Congenital blepharoptosis, Interpalpebral fissure, Levator resection, Margin limbal distance

5.0

가 mm ,

. Beard¹⁾ 5.0 mm

, , Mar- 5.0 mm

cus-Gunn , , ³⁾ .

, , 가 Berke

. 가

가 .

Putterman Urist
MLD(margin limbal distance)⁴⁾

(Interpalpebral Fissure)

MRD1(Margin Reflex Distance1)

MRD2(Margin Reflex Distance2)

²⁾

1998 2

1995 5

6

8.2 mm

가

17 21

2.0 mm

mild, 2.5~3.5

가 4

MLD

가 13

mm

moderate, 4.0 mm

severe

⁵⁾

Berke

⁶⁾

Marcus-Gunn

가



Figure 1. A. Preoperative photograph of left unilateral congenital ptosis patient and his preoperative interpallebral fissures were right 6.0 mm and left 4.0 mm, B. photograph in 18 months after levator resection using MLD and his interpallebral fissures were both 8.0 mm.



Figure 2. A. Preoperative photograph of bilateral congenital ptosis patient, his preoperative interpallebral fissures were both 4.0 mm, B. photograph in 14 months after levator resection using MLD and his interpallebral fissures were right 8.0 mm and left 8.5 mm.

(Margin Limbal Distance)

6

MLD 3

Urist MLD 3

가 10

1996

5)

8.2 mm

mm

가 1.0 mm

가 8.0

가 10

가 11

가 13

가 16

가 17

가 14

가 13

가 8

가 5

가 2

가 2

가 4

가 3

3.5 mm

7.0 mm

6.0 mm

6.0 mm

3.0 mm

5.3±1.7 mm

8.0 mm

가 8

1.5±1.4 mm

가 5

10.0 mm

12.0 mm

15.0 mm

18.0 mm

21.0 mm

22.0 mm

22.0 mm

가 7

가 14

가 9 (43%), moderate 가 9 (43%), severe 가 3 (14%) (Table 2).

20.6±8.2

4.9±1.2

가 7

가 14

가 9 (43%), moderate 가 9 (43%), severe 가 3 (14%) (Table 2).

3.0 mm

8.0

5.0 mm

5.0 mm

가 13 (61.9%), 5.0 mm

가 8 (38.1%) (Table 3).

MLD 0

5.0 mm

1.5±1.4 mm

3.0 mm

5.0 mm

가 5 (23.8%), 3.0 mm

가 16 (76.2%) (Table 4).

10.0 mm

22.0 mm

가 2

13.0 mm

16.0 mm

19.0 mm

22.0 mm

가 3

Table 3. Levator function by Berke method

LFT	No.(%)
5.0 mm ~ 8.0 mm	13(61.9)
<5.0mm	8(38.1)

Table 4. Margin limbal distance in ptotic eye

MLD	No.(%)
3.0 mm ~ 5.0 mm	5(23.8)
<3.0 mm	16(76.2)

Table 1. Preoperative interpalpabral fissure(IPF)

IPF	No.(%)
6.0 mm ~ 7.0 mm	7(33.3)
<6.0 mm	14(66.7)

Table 2. Severity of ptosis

Ptosis severity	No.(%)
mild(2.0 mm)	9(42.9)
moderate(2.5 mm ~ 3.5 mm)	9(42.9)
severe (4.0 mm)	3(14.2)

· Deviation from normal interpalpabral fissure (8.2 mm)

Table 5. Amount of levator muscle resection

Amount of levator resection	No. (%)
10.0 mm ~ 12.0 mm	2(9.1)
13.0 mm ~ 15.0 mm	2(9.1)
16.0 mm ~ 18.0 mm	10(45.5)
19.0 mm ~ 21.0 mm	5(22.7)
22.0mm	3(13.6)

(Table 5).

(62.5%)	8.0 mm	3	6.0 mm	가	가	Fasanella-Servat	Müller
(75%)	가	4	3	가			
13 10 (76.9%)	1.0 mm			가	3		
	1.5 2.5 mm						
1				가	가		
80~90% ⁷⁾	85 94% ⁸⁻¹⁰⁾			가		Fox	가
						4.0 mm	
							3.0
	3,8-12)	12.7	38%			mm	
						8.0 mm	
						가 1.5 mm	
						Fasanella-Servat	7). Put-
		Marcus-Gunn				nam	5.0 mm
							, 6.0 10.0 mm
				가			10.0
						mm Müller	
						Fasanella-Servat	2).
							5.0 mm
MRD1							
				가			
						가	
	5)	8.2 mm			3)	4.0 mm	
					94.4%		Mau-

riello ¹³⁾ 2.0 mm 가
 1.0 mm
 13 10 (76.9%)
 3 1.5 2.5 mm
 5.0 mm
 가 5 1 1.5 mm
 1.0 mm
 3.0 mm 가
 66.7% 90.8% ^{11,12,15,16)}
 5.0

mm 8 가 5 3
 1.0 1.5
 mm 3
 가 6.0 mm 7.0 mm
 3.0 5.0 mm

가
 가 가 ¹³⁾
 3 mm
 1 mm
²⁾ 가
 10 17 mm, 14~22
 mm, MLD
 23 27 mm
¹⁴⁾ Putterman
 MLD 가
 3
 9.0 mm 3

REFERENCES

10.0 mm
 22.0 mm 16.0 mm 18.0
 mm 가 10 가
 8.0 mm 8 5 (62.5%)
 3 6.0 mm
 가 가 4
 3
 5.0 mm 3
 2 8.0 mm

- 1) Beard C, Callahan MA : Beard's ptosis, 4th ed, Birmigham, Aesculapius Publishing Co, 1990, pp. 52-87.
- 2) Putnam JR, Nunery WR, Tanenbaum M, Mc.Cord CD : Oculoplastic Surgery, 3rd ed, New York, Raven Press, 1995, pp. 175-220.
- 3) :
 39:1062-1068, 1998.
- 4) Sarver BL, Putterman AL : Margin limbal

distance to determine amount of levator resection, Arch Ophthalmol. 103:354-356. 1985.

5) 37:14-18. 1996.

6) Berke RN : Results of resection of the levator muscle through a skin incision in congenital ptosis, Arch Ophthalmol. 61:177-201. 1959.

7) Fox SA : Surgery of ptosis, Baltimore, The Williams & Wilkins Co., 1980, pp. 1-158.

8) , : 36: 1649-1654. 1995.

9) , : 127 26:441-448. 1985.

10) , : 67 20:283-293. 1979.

11) , : 23:291-497. 1982.

12) , , : 29:7-11. 1988.

13) Mauriello JA, Wagner RS, Caputo AR, Natal B, Lister M : Treatment of congenital ptosis by maximal levator resection. Ophthalmology 93:466-469, 1985.

14) Nesi FA, Lisman RD, Levine MR : Smith's ophthalmic plastic and reconstructive surgery, 2nd ed, St. Louis, Mosby-Year Book, 1998, pp. 355-394

15) , , : 33 36:1636- 1642, 1995.

16) , , : 456 36:1093- 1104, 1995.

17) , , : 1993, p. 72.