

모야모야병에 대한 최근의 외과적 치료*

가
 김달수 · 유도성 · 허필우 · 김재건 · 조경석 · 강준기

= Abstract =

Recent Surgical Treatment of Moyamoya Disease

**Dal Soo Kim, M.D., Do Sung Yoo, M.D., Pil Woo Huh, M.D.,
 Jae Keon Kim, M.D., Kyoung Suok Cho, M.D., Joon Ki Kang, M.D.**

*Department of Neurosurgery, The Catholic University of Korea College of Medicine,
 Uijongbu St. Mary's Hospital, Uijongbu, Korea*

The authors reviewed the recent trend of surgical treatment for pediatric as well as adult onset moyamoya disease(MMD). Combined direct and indirect arterial anastomosis or multiple indirect arterial bypasss has been increasing for pediatric MMD and direct arterial bypass is recommended for adult MMD, especially in patients with hemorrhagic MMD.

Besides perioperative complications related to the management of MMD and 1999 annual report by the Research Committee on Spontaneous Occlusion of the Circle of Willis(Moyamoya Disease) of the Ministry of Health and Welfare, Japan will be summarizd.

KEY WORDS : Moyamoya disease · Surgical treatment · Perioperative complication · 1999 annual report.

서 론

소아의 모야모야병

MMD
 superficial temporal artery - middle cerebral artery(STA - MCA)²⁾¹²⁾¹⁴⁾가
 encephaloduro - arteriosynangiosis(EDAS)가
 encephalomyosynangiosis(EMS)¹⁾¹³⁾¹⁵⁾²²⁾²⁵⁾
 MMD
 MMD , MMD
 1999
 MMD

MMD
 2
 MMD
 MMD
 , STA - MCA
 , MMD

2001 19 (HNP - 00 - STA - MCA 2)4)12)14) MMD CN - 01 - 0018)

MCA
STA - MCA 가
1)2)11)

MMD 가
7)16)18)21)26)31)34)

Ikezaki 8) MMD
20% , 39 (28.3%)
30% 가 , 18%
, 20% 가
가

Houkin 12 encephalo - duro - arterio - myo - synangiosis(EDAMS) STA - MCA
34 MMD 22
MMD (digital subtraction angiography) , deep temporal mid-
dle meningeal
, STA
가 , EDAS가 6)

positron emission tomogra-
phy(PET) single positron emission computed tomo-
graphy(SPECT)
,
magnetic resonance angiography(MRA)
가

성인의 모야모야병

Kobayashi 19) 42 MMD bypass
80.6
10 5 (35.7%)
, 7.09%/person/year MMD
3 (21.4%)
가 7 (50%)

5 MMD STA - MCA
PET (basal ganglia) “ misery ”
가

Okada 27) MMD STA - MCA 24)
bypass 152 29 (19.1%)
MMD 138
Yoshida 33) 28 MMD 14.2%
, 5 , 21
6 2 20
4
8 1 13 5
Houkin 6) STA - MCA
15 (53%), 18 17 (94%)
, STA - MCA
Kim 20) MMD
STA - MCA, EMS, EDAS EDAMS
Kawaguchi 17) MMD 가
22 8 STA - MCA
6
, 11 6 EDAS
5 3
STA - MCA
가
bypass 가
MMD 가
MMD STA - MCA

수술 합병증

MMD 9)10)23)28 - 30),

5), 32), 가 가

MMD 3.8% 22.2%

Sato 30) 36 MMD
8 (5 minor stroke, 3
)
(normocapnia),
(normotension), (normothermia)
(anemia)

Iwama 9) 124 MMD 21 (16.9%)
10 가 11
(transient
ischemic attack, TIA) 45mmHg
(hypercapnia)

Oshima 28) MMD 가
global hyperemia
(intracerebral steal phenomenon)
isoflur-
ane propofol (hyperemia)

MMD TIA
(hypocapnia), (hypercapnia),
(hypotension) MMD
(hyperthermia)

1999년 MMD에 대한 일본연보의 요약

1999 The Research Committee on Spontaneous Occlusion of the Circle of Willis (Moyamoya Disease) 35) ;

- 1) 1999 77 가 가
1,161 1,074 definite MMD
388 , 686
- 2) MMD MMD 가
, Bypass MMD

- 3) MR 가 MMD , fork ,
- 4) MMD staging acetazolamide
SPECT 6 stages
Suzuki staging
- 5) MMD 가
- 6) 가 MMD 3,6,17 alleles

요약

MMD STA - MCA 가
가
acetazolamide PET SPECT

- : 480 - 130 65 - 1
가
: 031) 820 - 3020, 3000, : 031) 847 - 2369
E - mail : dalskim@cmc.cuk.ac.kr

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