

(branch) 가
 (operculum) 가
 M3(opercular) segment M4
 segment 가 (cortical branch)
 (bifurcation)
 (perforator)
 M1 (superolateral) uncus
 artery, polar tempolar artery anterior temporal artery
 (inferomedial) 10 M1
 (lenticulostriate arteries) 38%) 가
 (internal capsule), (globus pallidus) 22)
 (caudate nucleus) 가 projection
 (anomaly) M2 (disse-
 가 3% ction)
 5) hemodynamic stress
 가 (Figs. 1 and 2).¹⁾⁶⁾¹¹⁾¹²⁾¹⁵⁾²⁶⁾³¹⁾
 duplicate
 MCA, 30)(accessory
 MCA) fenestrated MCA³⁵⁾

(trifurcation)가 80~85% 가
 M1 (trunk) anterior tempolar artery, poral
 artery, lenticulostriate artery M1 가
 (10~15%).²²⁾³³⁾ 4~5% M2, M3, M4
 (distal MCA) 10)
 distal MCA , , ,
 가
 (lateral, 45%) (anterior,
 (superior(15%)
 가 projection
 M2 (disse-
 ction)

방사선학적 검사

(CT angiogram)
 (atheroma) (sac) 가
 (neck)
 (calcification)가
 (Fig. 3).

동맥류의 호발부위 및 성장방향

M1 (bifurcation)



Fig. 1. Intraoperative photograph shows a saccular aneurysm (white arrow) originating from the accessory middle cerebral artery (black arrow).

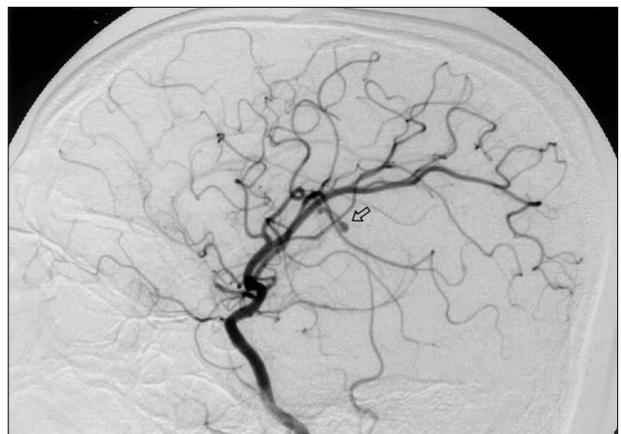


Fig. 2. Digital subtraction angiography shows an aneurysm developing from the distal middle cerebral end artery (arrow).

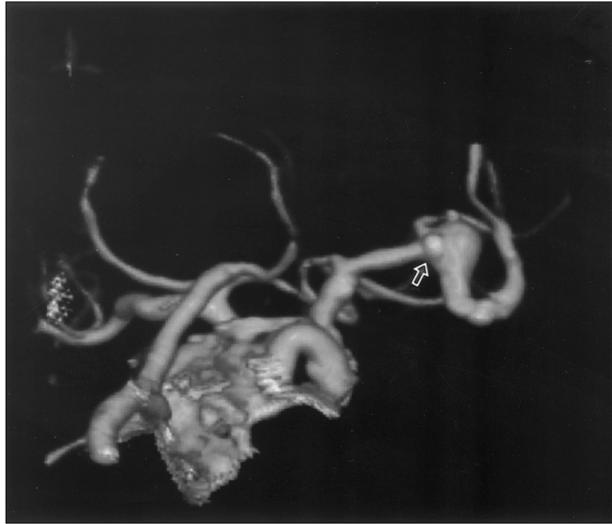


Fig. 3. CT angiography reveals calcified atheroma on the neck of the middle cerebral artery aneurysm (arrow).

수술적 치료

가
 가 (incorporation) 가²⁾¹⁷⁾
 가
1. 머리위지 및 계두술
 가
 (retraction injury)
 (relaxation)
 three -
 point Mayfield - Kees skeletal fixation device
 30~40 ° 가 가
 가
 15 ° extension
 tilting malar eminence가 가 M1
 pterion³⁶⁾ 1~2 cm

3~4 cm 가
 (superior orbital ridge)
 (squamous temporal bone) (greater sphenoid wing)
 (superior orbital fissure)
 meningo - orbital artery가

2. 수술접근법

2)3)7 - 9)13)16 - 23)25)29)32)34)36)
 distal sylvian fissure approach, proximal sylvian fissure approach
 superior temporal gyrus approach 가
 가 가 가

Distal sylvian fissure approach 가
 (distal sylvian fissure) M2

proximal control 가 dome
 Proximal sylvian fissure approach 가
 M1 (distal)
 proximal control

Superior temporal gyrus approach 가
 superior temporal gyrus (distal MCA)
 M2

가
 M1
 proximal sylvian fissure approach, M2
 distal sylvian fissure approach가

(MCA bifurcation) distal
 sylvian fissure approach 가 M1
 가 1.5 cm proximal sylvian fissure app-
 roach가 가
 projection M1 가
 distal sylvian fissure approach가
 가
 proximal sylvian fissure
 approach가
 superior temporal gyrus approach
 가 가
 가
 sac neck, M1 M2
 가 가 가
 가
 distal sylvian fissure approach
 가 pro-
 ximal sylvian fissure approach M1

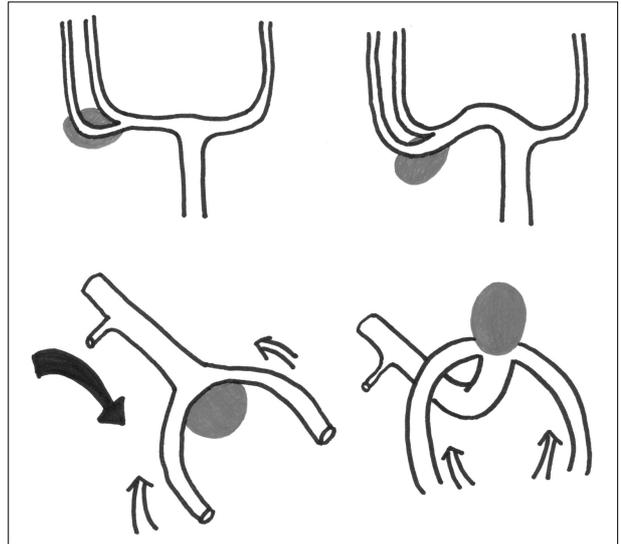


Fig. 4. For lateral or posterior projection of aneurysm, it is safe to split the sylvian fissure in a proximal-to-distal direction (proximal sylvian fissure approach). However it may be approached from distal sylvian fissure (distal sylvian fissure approach) by advancing dissection along the outer surface of the M2s. The M1 and neck of the aneurysm can be exposed before encountering the fundus of aneurysm (Left). Anterior direction of aneurysm should be approached from distal sylvian fissure. By dissecting along the inner surface of the M2s, the M1 with neck of aneurysm may be isolated first (Right).

3. 지주막박리 및 동맥류결찰

Distal sylvian fissure approach
 (distal sylvian vein)
 (blood clot)
 mechanical retractor sucker M1
 M3 M2 M2
 projection M2 (inner surface) M2
 (outer surface) M2
 가 M2
 가 M2
 M1
 (Fig. 4). M1 (tempo-
 rary clipping) lenticulostriate
 artery M1 M2 neck
 가 (subpial
 dissection)가
 가 sac
 가

neck clip blade가
 barbiturate mannitol
 120 mmHg
 M1 10
 30
 M2 가
 Lobulation 가 M1, M2
 utery 가 bipolar ca-
 (shrink)
 Doppler M1, M2
 (patency) (puncture) 30 G
 (complete clipping) (aspiration)
 가
 가
 (incomplete clipping)

clip 가 , neck
clip closing force가
atheroma

M1 M2
neck sucker 가
Doppler M1 M2
cotton patty glue coating neck
가 가 M1, M2 neck
가 가
가 가
M1 proximal sylvian fissure
approach , M2 distal sylvian fissure app-
roach superior temporal gyrus
approach
가 neck
가
가 aneurysmorrhaphy
가 wrapping
가
Proximal sylvian fissure approach self - retaining
retractor (optic nerve cistern)
Liliequist
M1
arachnoid band
M1 M2
sylvian fissure approach 가
Superior temporal gyrus approach
가
superior temporal gyrus 2 cm
dome M2, M1 neck

결 과

1997 5
2003 5 87 101
가 86 (85.1%) 가
M1 trunk lenticulostriate artery anterior
temporal artery M1 branch 가 8 (7.9%),
M2 가 7 (6.9%)
(accessory MCA) 1
87 79 (90.8%) good
outcome, 4 (4.6%) fair to poor outcome
4 (4.6%)
Hunt & Hess Grade Grade
0 3 62 61 (98.4%) good out-
come , Grade 4 16 15 (93.8%)
good outcome , Grade 0 4
가
Fair poor outcome Grade 3 1
, Grade 4 2
Grade 5
9 good outcome
3 4
4 1
, 1
2 (acute pulmonary distress
syndrome)
(Table 1).

결 론

Table 1. Results of microsurgery for middle cerebral artery aneurysms

Preoperative grade (Hunt-Hess)	No.	Results			
		Good	Fair	Poor	Dead
0 - 3	62	61	1	0	0
4	16	15	1	0	0
5	9	3	1	1	4
Total	87	79	3	1	4

distal sylvian fissure approach, proximal sylvian fissure approach, superior temporal gyrus approach 가 가 가

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