

Endoszkópia az idegsebészetben

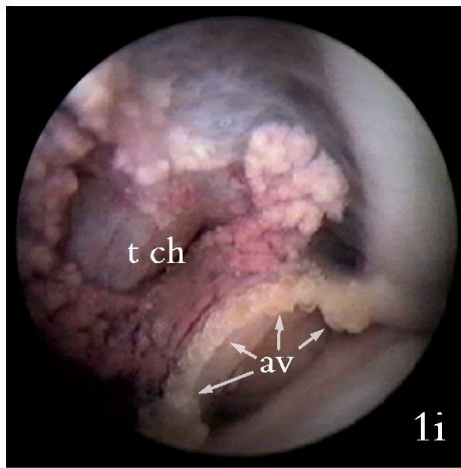
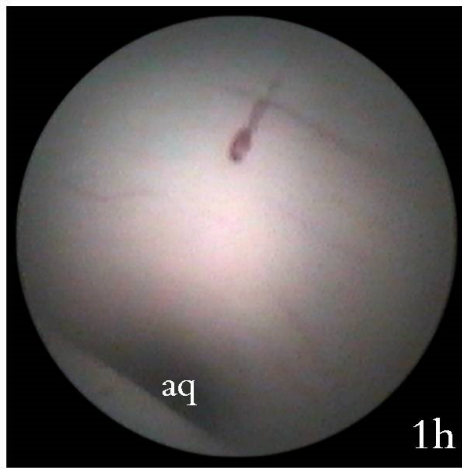
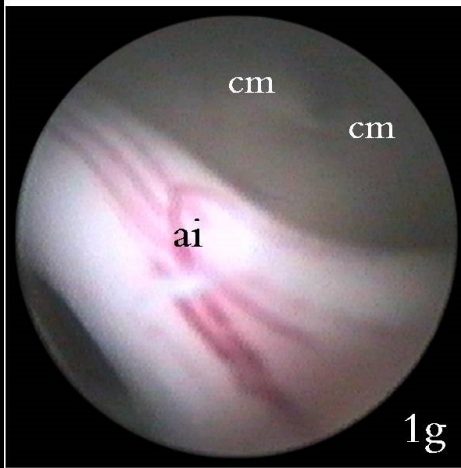
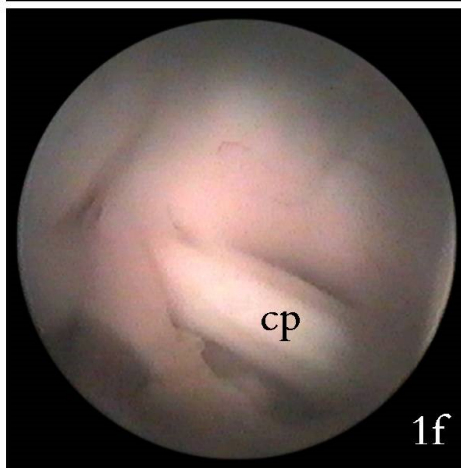
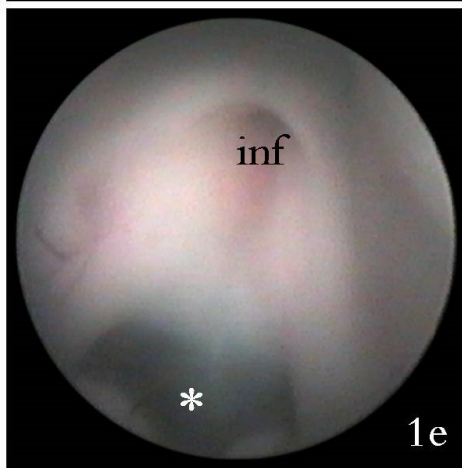
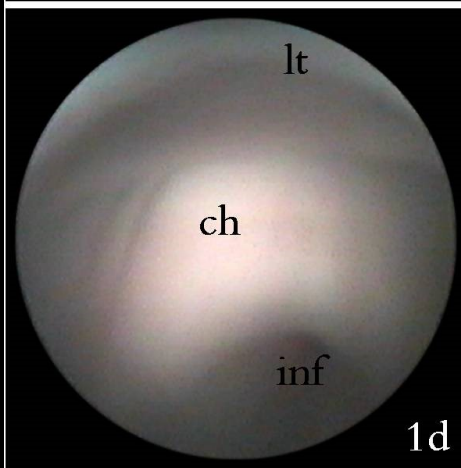
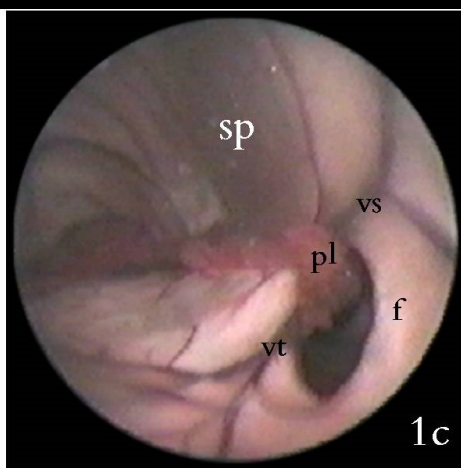
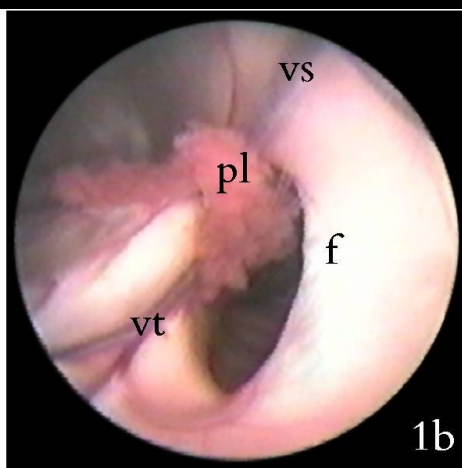
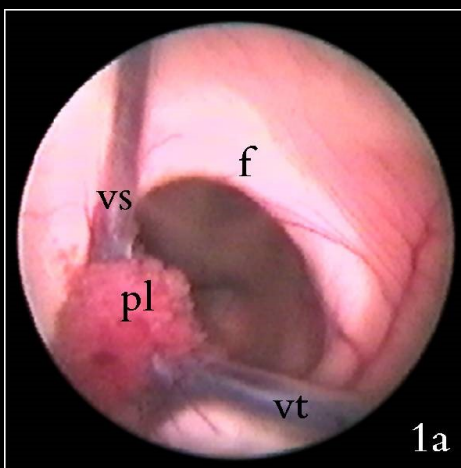
Vető Ferenc

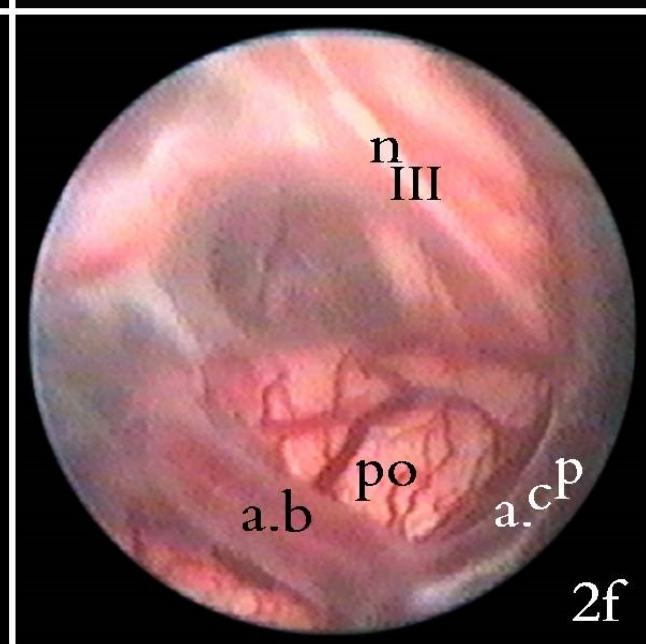
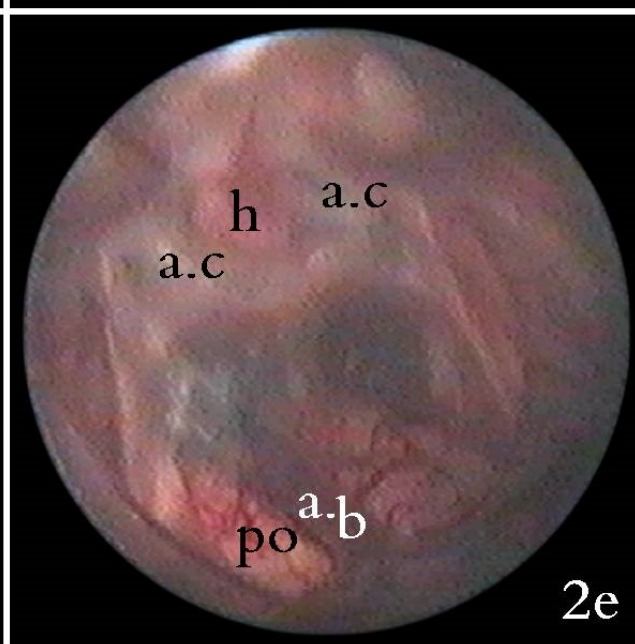
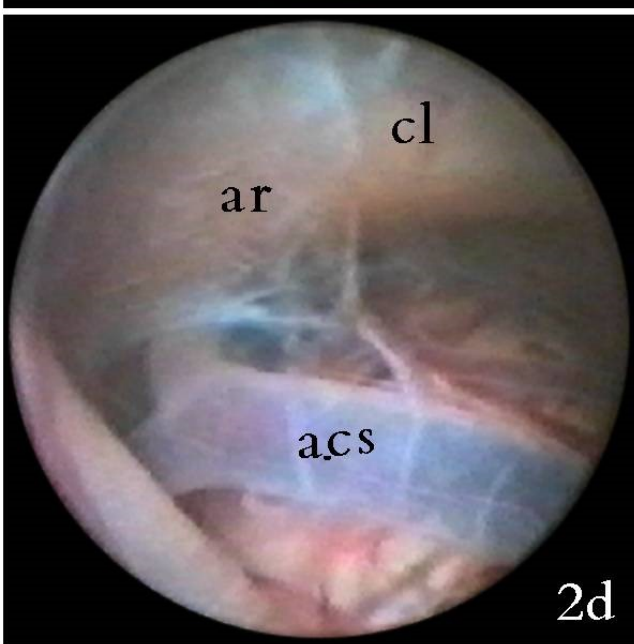
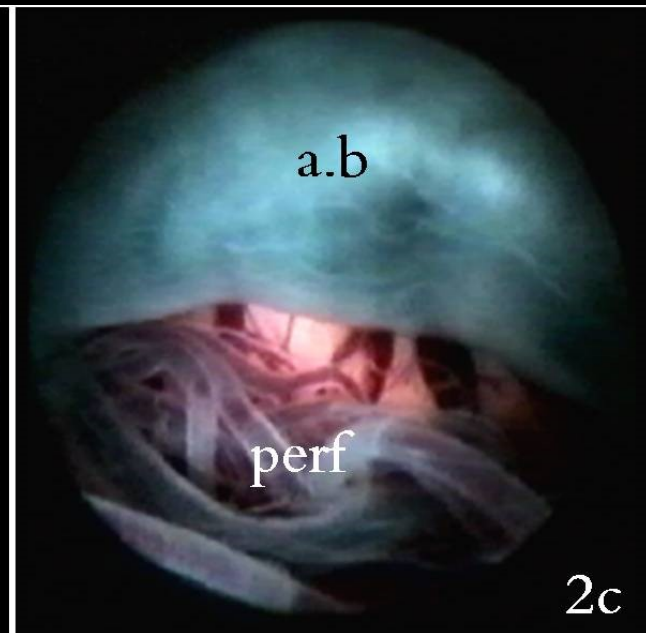
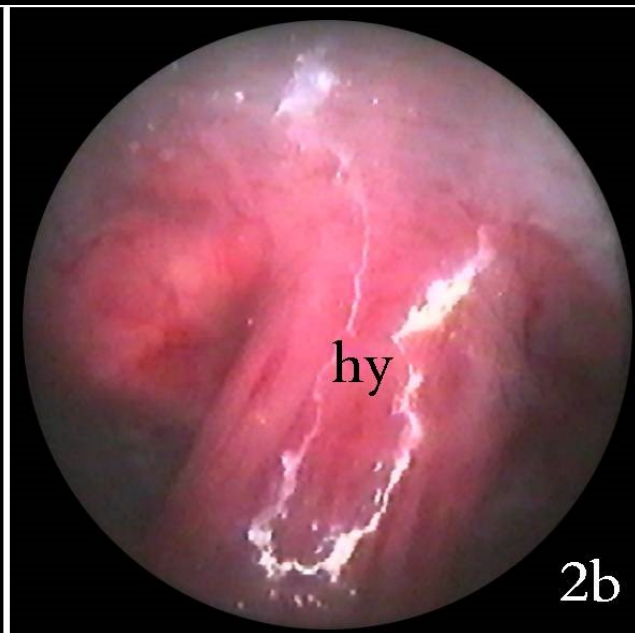
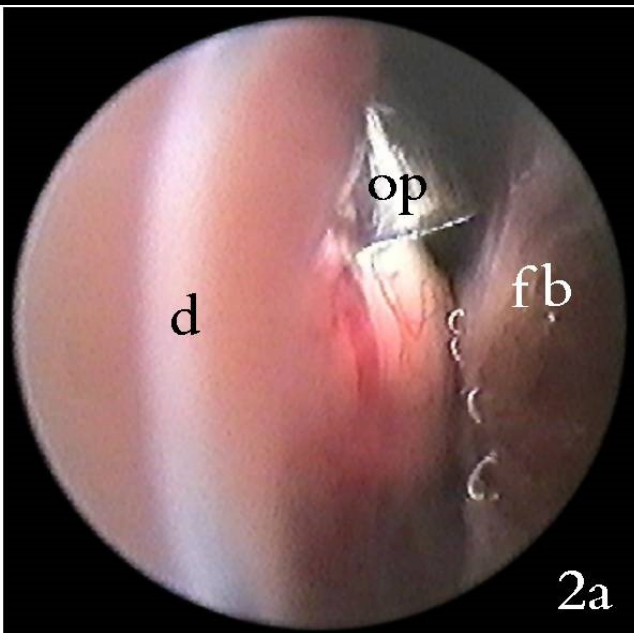
PTE ÁOK Idegsebészeti Klinika

A neuroendoszkópia speciális nehézségei

1. a rendelkezésre álló terek igen szűkek, nem növelhetőek
2. szövődmény esetén a direkt feltárás lassú
3. a szívással/öblítéssel társuló nagyobb nyomásváltozások veszélyesek
4. Mivel liquortérben történik, minimális vérzés is erősen rontja a tájékozódást

A neuroendoszkópia során
megvalósuló szövetkímélet
(minimális invázió) a
regenerációra képtelen
központi idegrendszer szöveteire
vonatkozik





A hydrocephalus diagnosisa, kezelése (időrendi vázlat)

1910

ventriculographia, pneumoencephalographia
(Dandy)

1920

1930

ventriculostomia, ventriculocisternostomia
(Mixer, Dandy, Stookey, Torkildsen)

1940

1950

1960

SHUNT

1970

Shunt / **endoszkópos
ventriculostomia**

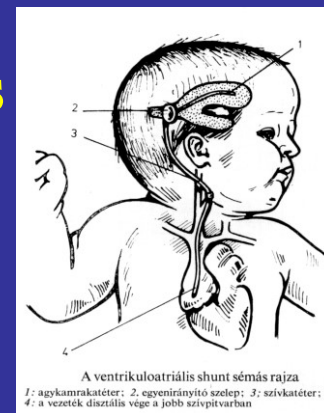
1980

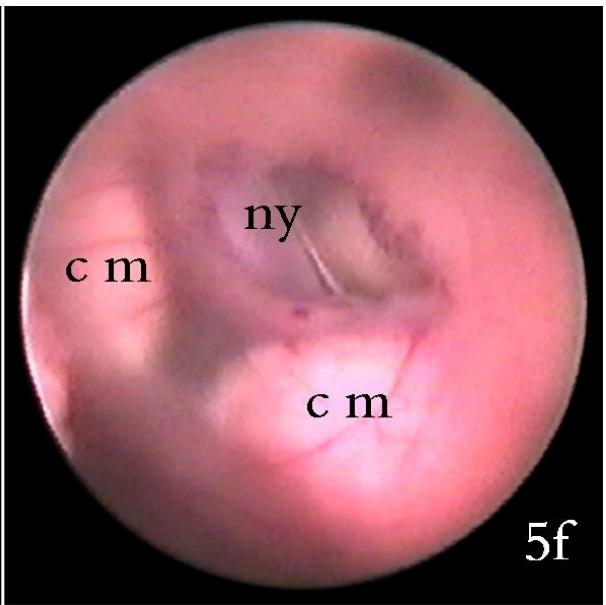
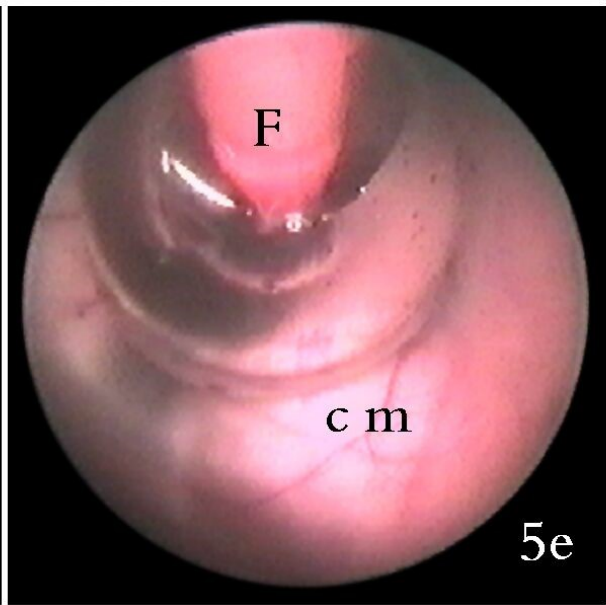
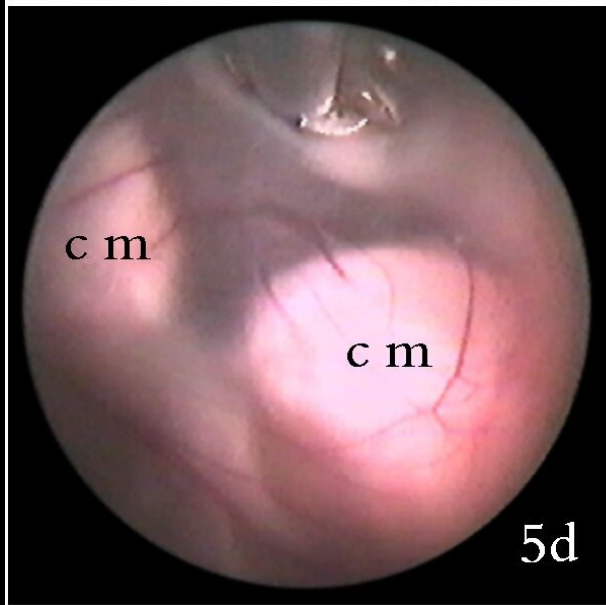
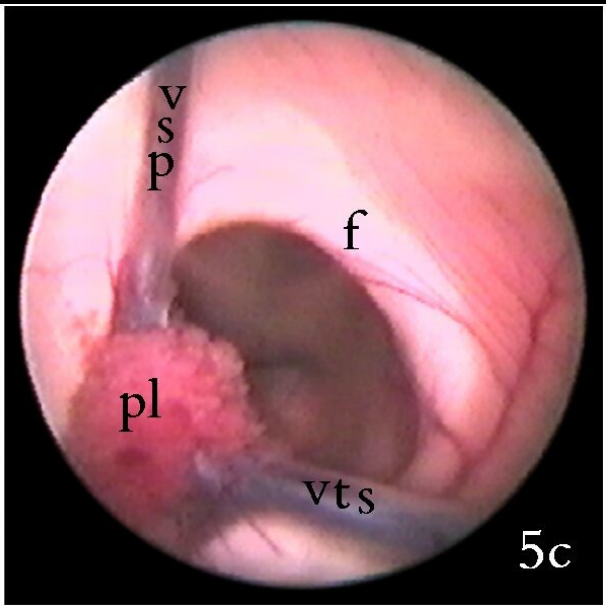
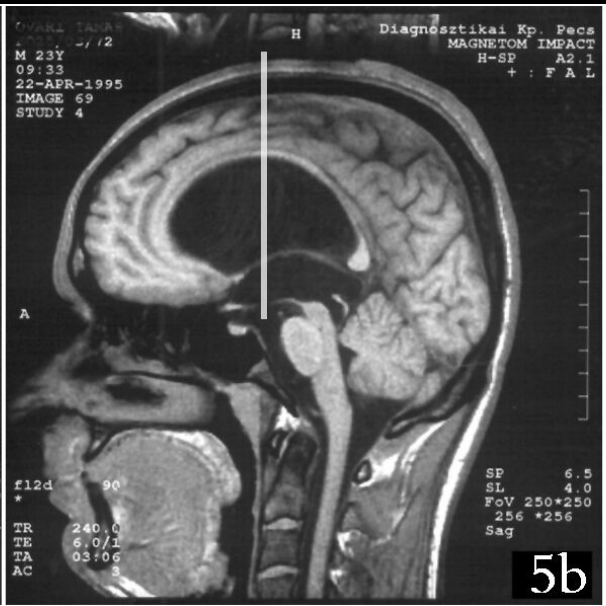
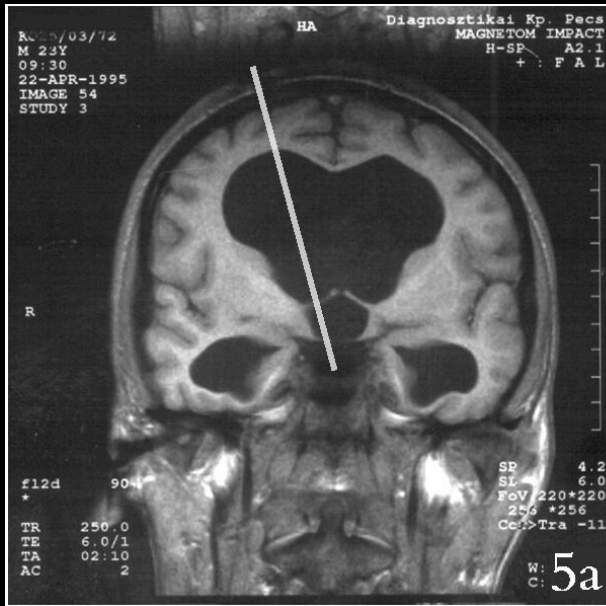
CT

1990

MR

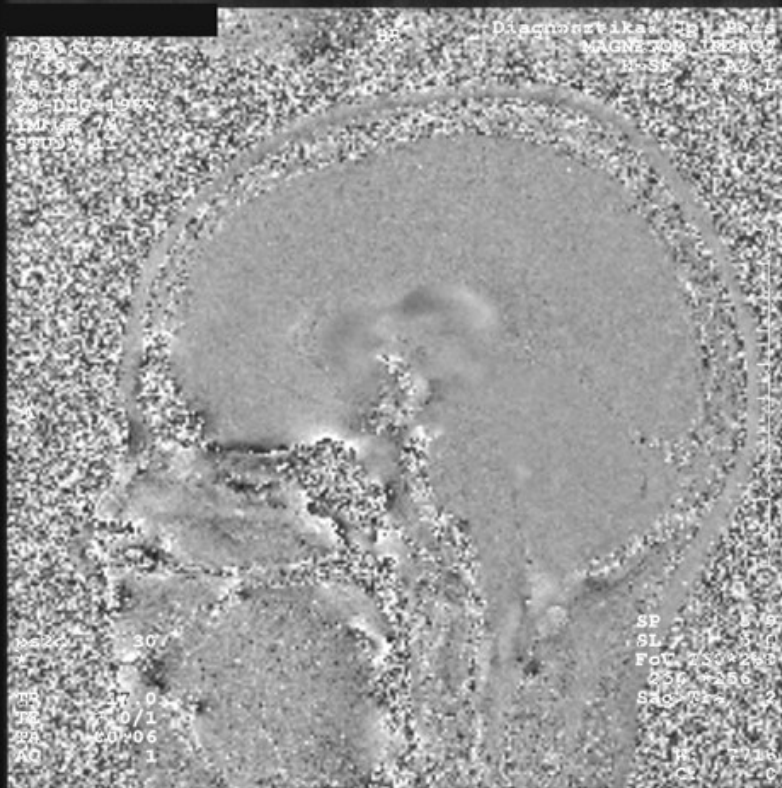
2000











A ventriculostomia eredményessége betegcsoportok szerint

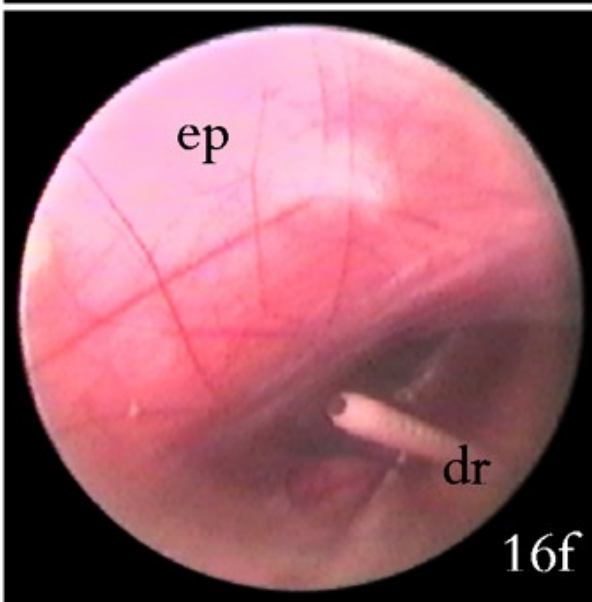
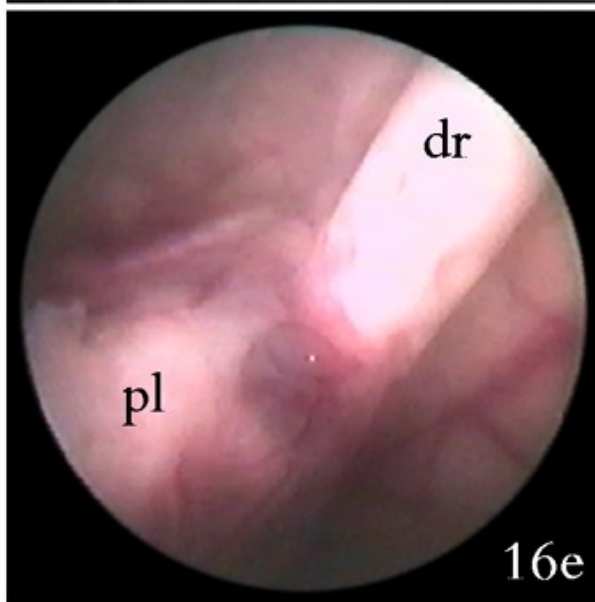
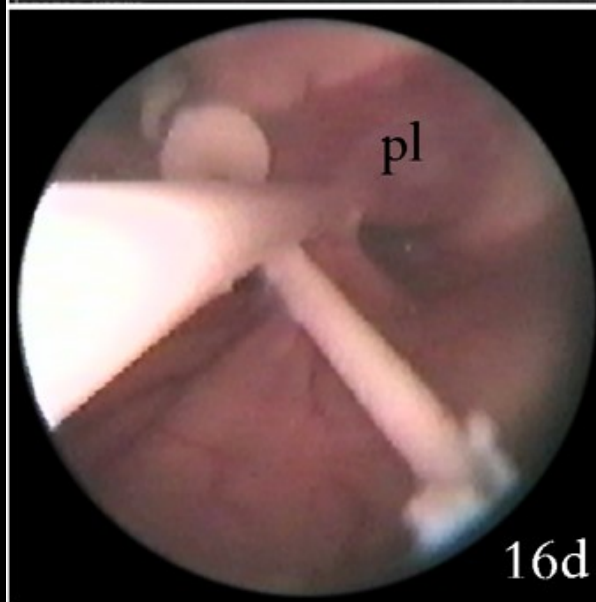
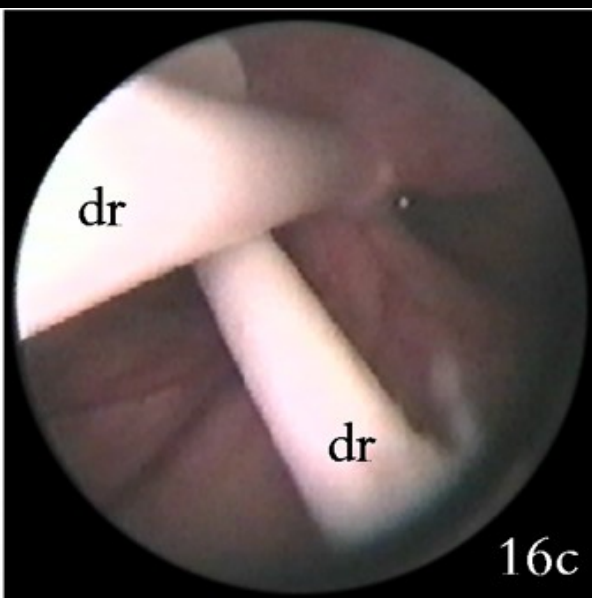
TÜNETI MORPHO- LOGIAI	Heveny nyomás- fokozódás	Nyomás- fokozódás	NPH	agyi vascularis történés	mentális tünetek	epilepsia	össz. javulás morphologia szerint	%
Primer occlusiv	7/7	13/12	6/5	4/4	6/6	12/12	48/46 *	96
Secunder occlusiv	15/13	11/10	0/0	2/2	1/1	1/1	30/27 *	90
communicáló	0/0	5/0	4/0	2/2	6/3	2/2	19/7	37
összes javulás tünettan szerint	22/20	29/24	10/5	8/8	13/10	15/15		
%	90,9	82,7	50	100	76,9	100		

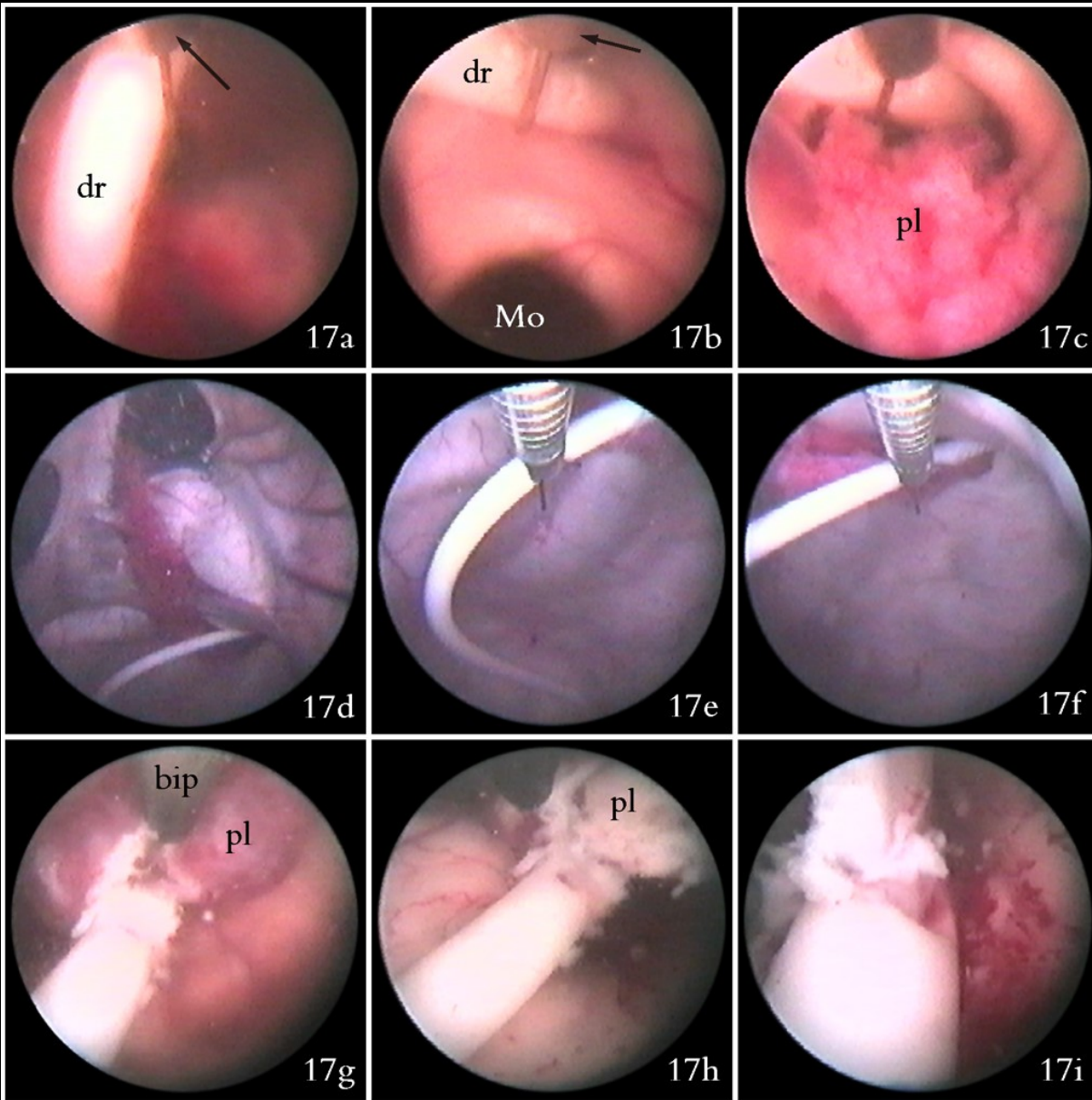
* e betegek közül 17-nek korábban shunt-beültetése volt.

Az átlagos követési idő 29 (1-48) hónap volt.

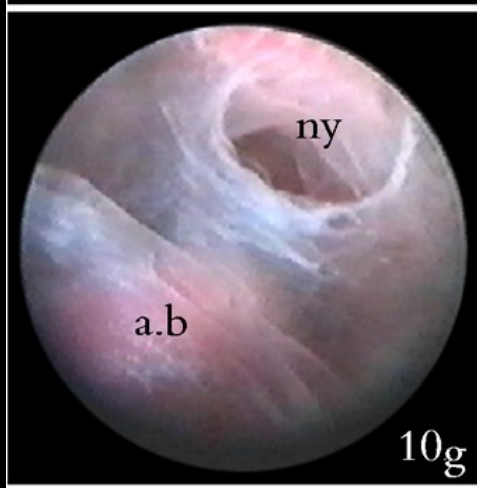
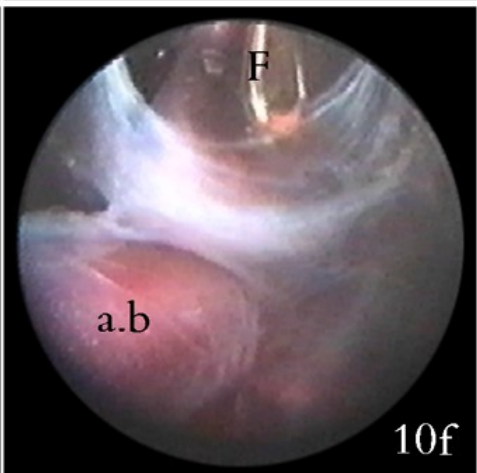
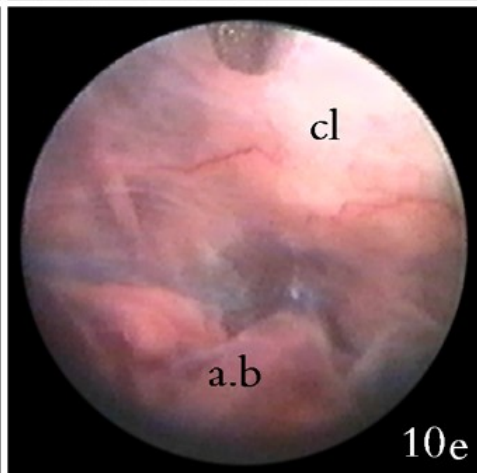
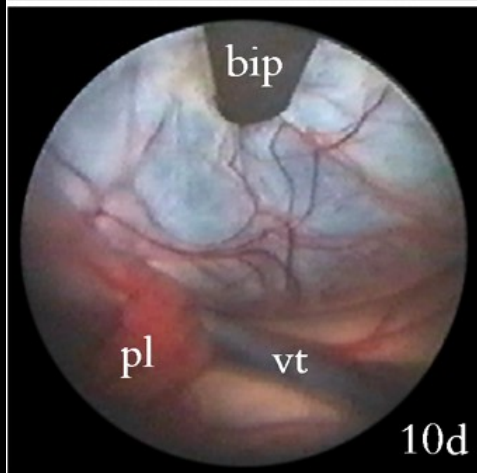
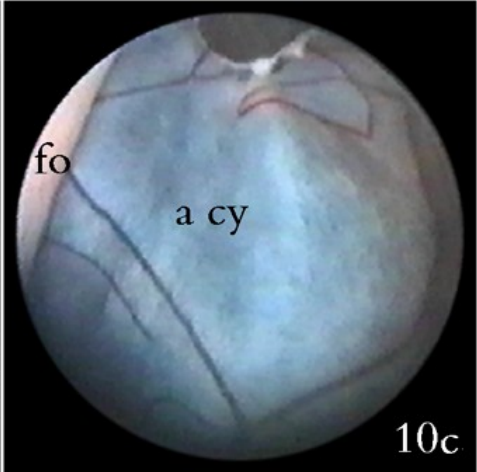
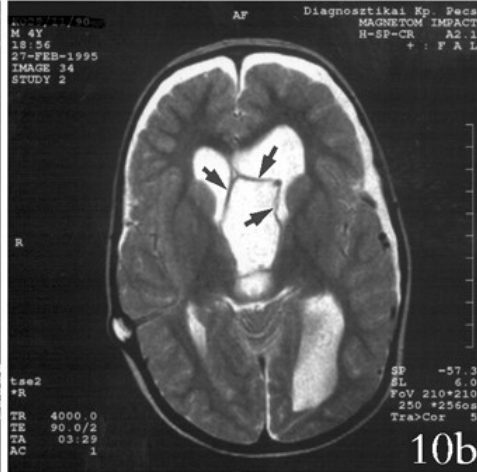
Az endoscopos ventriculostomia előnyei

- A fiziológiához jóval közelebb álló liquorkeringést biztosít.
- Nem kell számolnunk a shuntbeültetés szövődményeivel:
 - fertőzés (shunt-sepsis)
 - túlvezetés
 - mechanikus szövődmények (malpositio, disconnectio, occlusio)











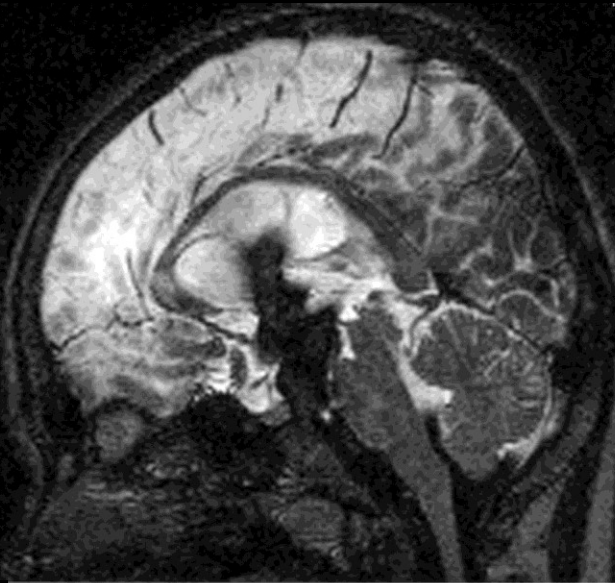
*94/02/24;10Y
STUDY 2
04/09/14
09:31:07
5 IMA 9 / 15

AL

MF 1.49

TR 30.0
TE 5.8
TA 03:04
BW 130.0
M/ND

A2
HE
*ps3d1rs / 30

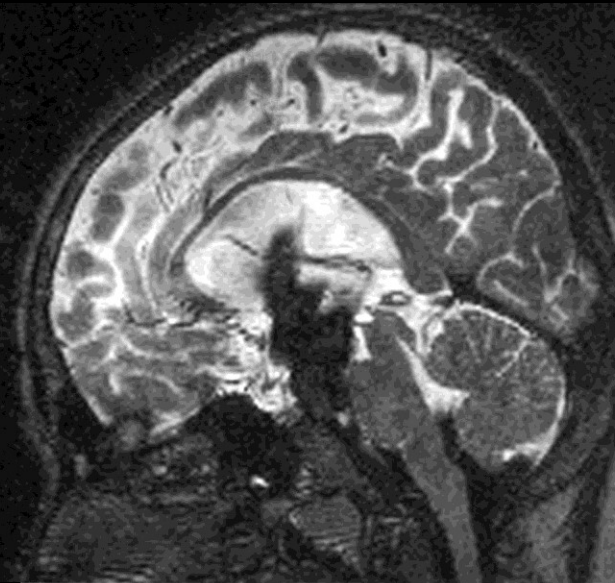


MR 20028
HFS
+LPH
*94/02/24;10Y
STUDY 2
04/09/14
09:31:07
5 IMA 10 / 15

AL

MF 1.49

D TR 30.0
TE 5.8
SP R11.6 TA 03:04
SL 2.0 BW 130.0
FoV 203*270 M/ND
192*256
Sag>Cor(-3.4) A2
W 428 HE
C 1/1 *ps3d1rs / 30



MR 20028
HFS
+LPH
*94/02/24;10Y
STUDY 2
04/09/14
09:31:07
5 IMA 11 / 15

D

MF 1.49

SP R9.6
SL 2.0
FoV 203*270
192*256
Sag>Cor(-3.4)
W 406
C 161

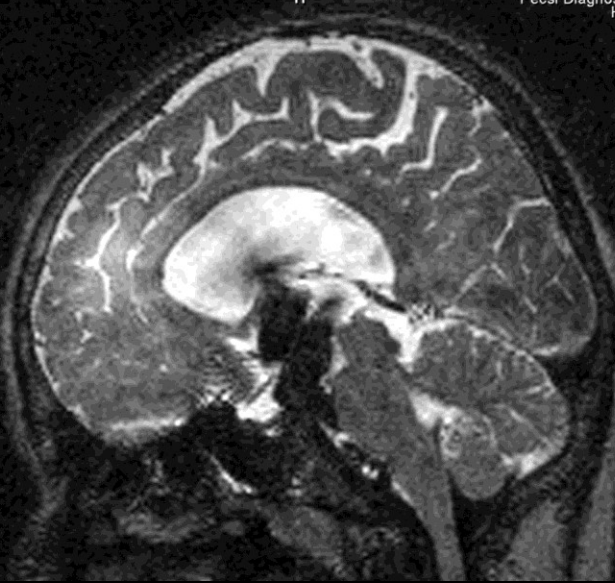
KO
*94/02/24;10Y
STUDY 2
04/09/14
09:31:07
5 IMA 12 / 15

AL

MF 1.49

TR 30.0
TE 5.8
TA 03:04
BW 130.0
M/ND

A2
HE
*ps3d1rs / 30



Pecsi Diagnosztikai Központ
HarmonyExpert

MR 20028
HFS
+LPH
*94/02/24;10Y
STUDY 2
04/09/14
09:31:07
5 IMA 13 / 15

AL

MF 1.49

D TR 30.0
TE 5.8
SP R5.6 TA 03:04
SL 2.0 BW 130.0
FoV 203*270 M/ND
192*256
Sag>Cor(-3.4) A2
W 369 HE
C 1/1 *ps3d1rs / 30



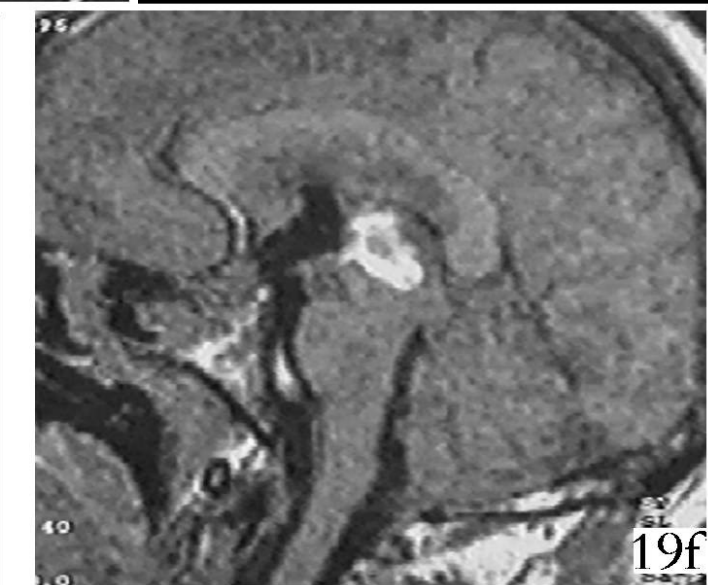
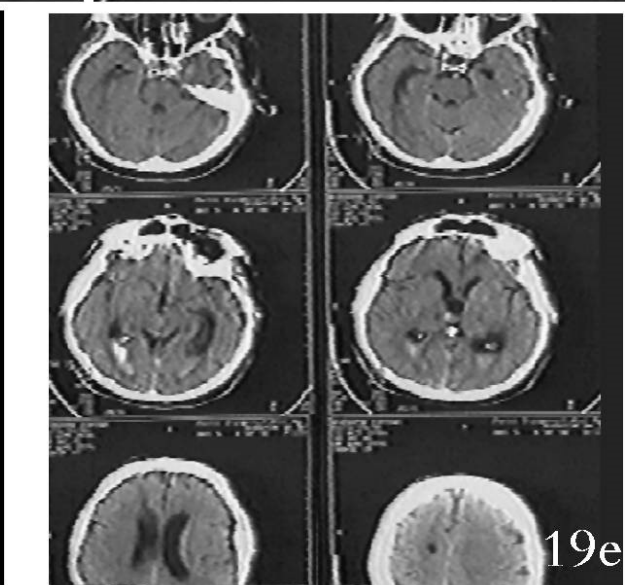
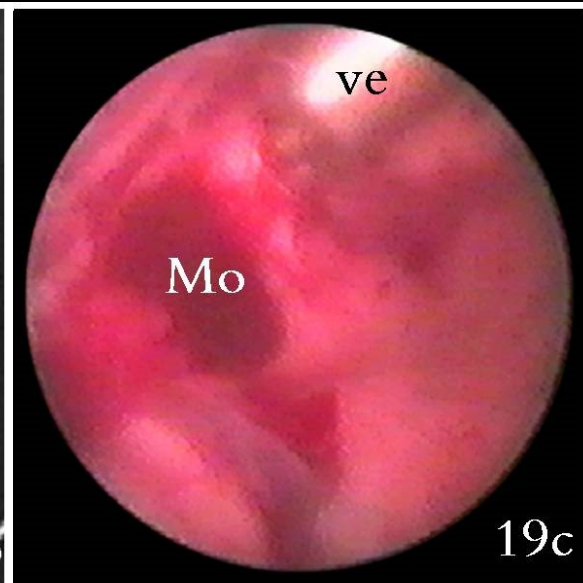
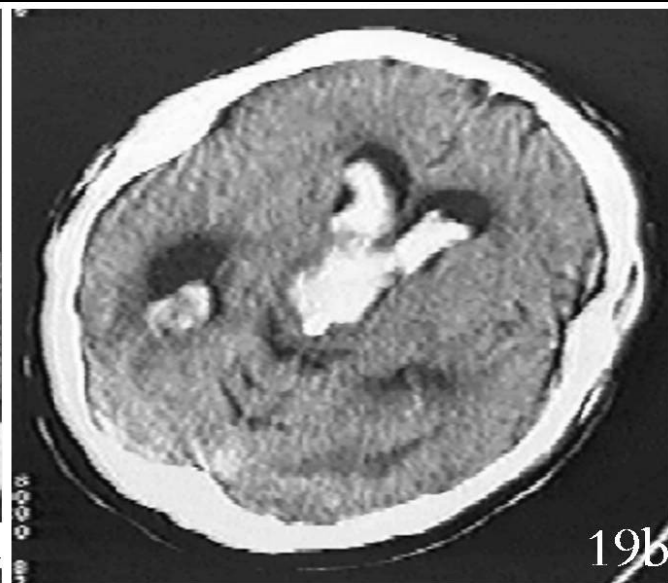
Pecsi Diagnosztikai Központ
HarmonyExpert

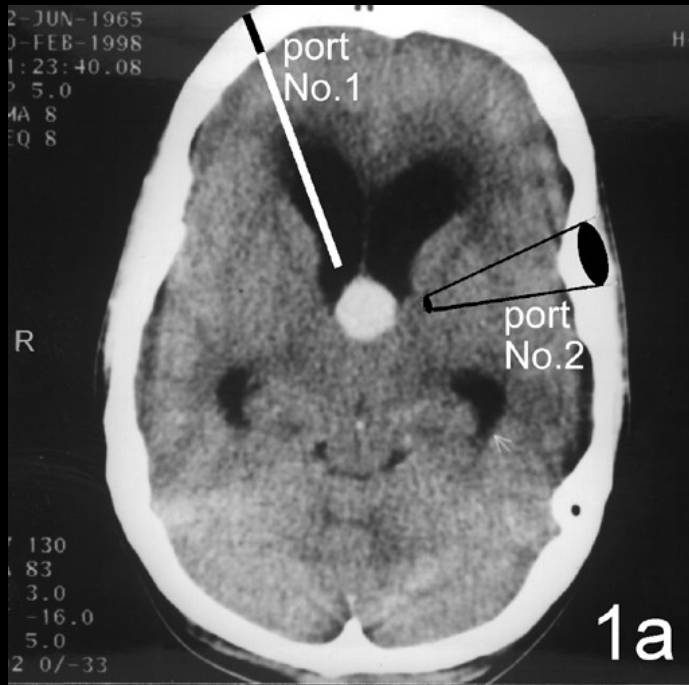
MR 20028
HFS
+LPH
*94/02/24;10Y
STUDY 2
04/09/14
09:31:07
5 IMA 14 / 15

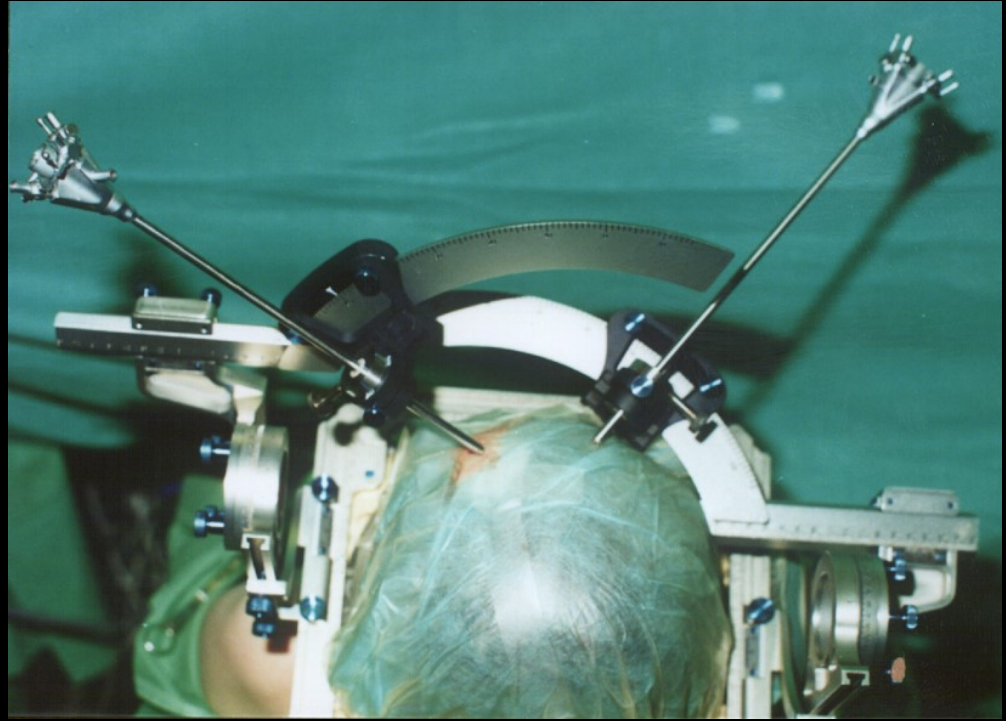
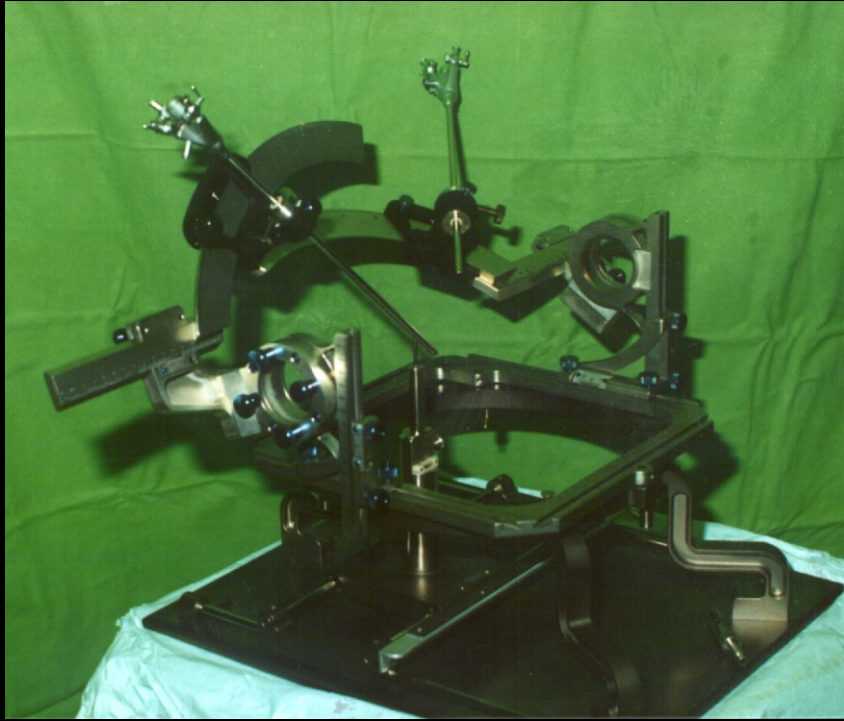
D

MF 1.49

SP R3.6
SL 2.0
FoV 203*270
192*256
Sag>Cor(-3.4)
W 329
C 129

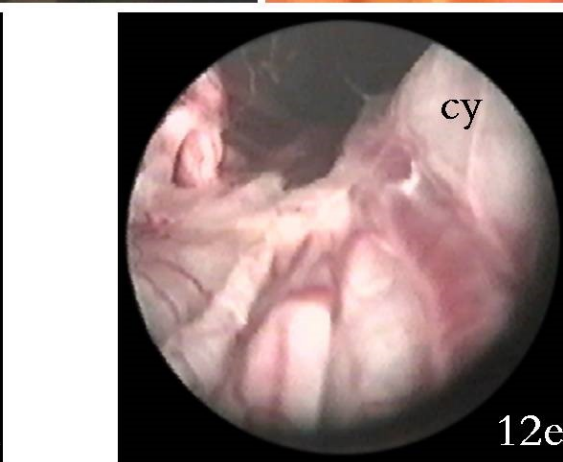
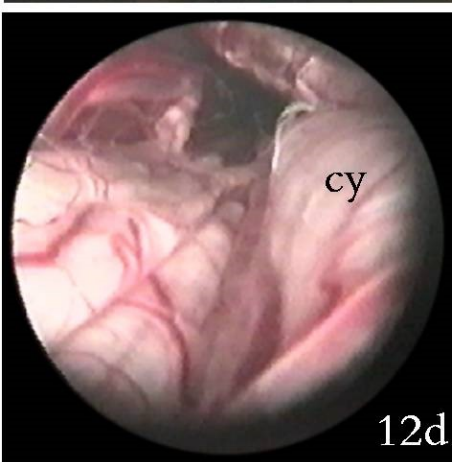
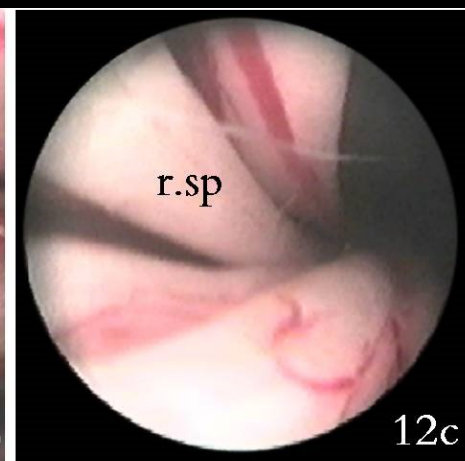
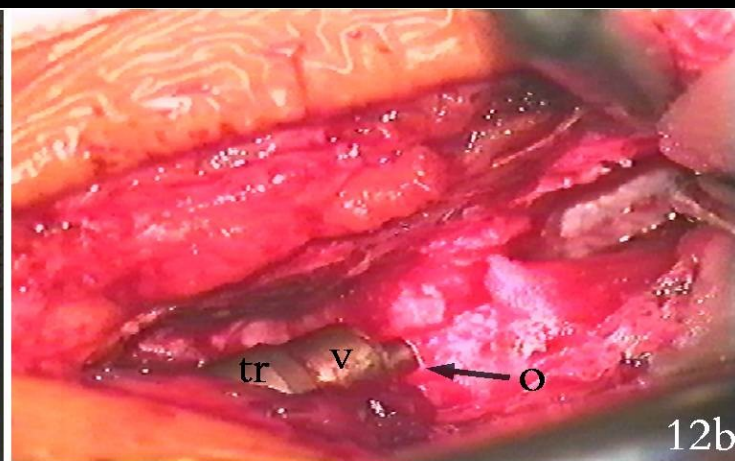






Életkor nem	Panaszok	Időtart.	Preop. CT	Preop. MR	Méret (mm)	Mono/ Biport.	Intraop. Szöv.	Morbiditás	Postop. MR	Utánköv. (év)
60, nő	F, H, Sz, L	2 év	Hyper	Iso	10	BIP	-	-	Rad.	7
43, ffi	F, H	1 hónap	Hyper	Iso	10	MONO	-	-	Részl.	6
33, nő	F, E	3 hét	Hyper	Iso	18	BIP	Fornix purpura	Átmeneti memória- zavar	Rad.	6
33, ffi	F, H	8 nap	Hyper	Enyhén hyper	15	BIP	-	-	Rad.	4
25, ffi	F, H, Sz *	10 nap	Hyper	Iso	15	BIP	-	-	Rad.	3
54, ffi	Sz, I	1 hónap	Hyper	Iso	13	BIP	Fornix purpura	Memória- zavar	Rad.	2
34, nő	F *	6 hét	Hyper	Iso	10	BIP	-	Liquorrh.	Rad.	2
24, nő	F, H, L *	2 hónap	Hyper	Hyper	20	BIP	-	-	Rad.	2
27, ffi	L, Sz	5 nap	Hyper	Iso	15	MONO	-	-	Rad.	1/2

F = fejfájás, H = hányinger/ hányás, E = epilepszia, Sz = szédülés, L = látásromlás, I = inkontinencia



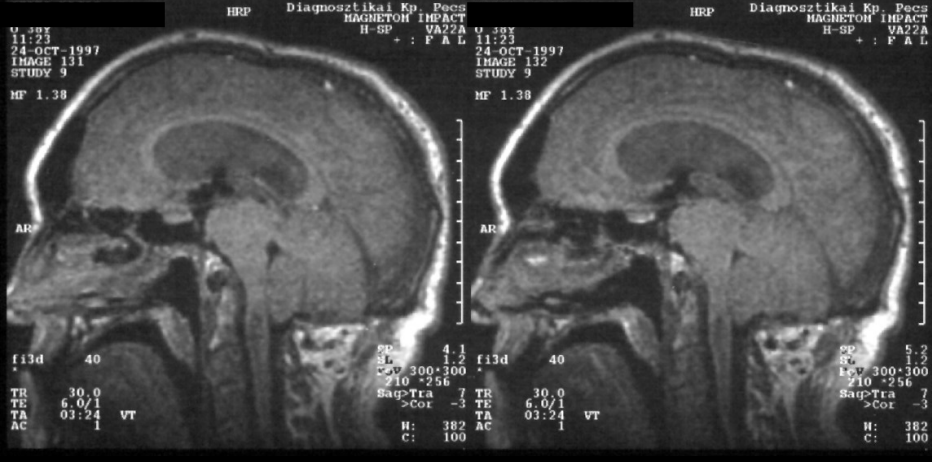
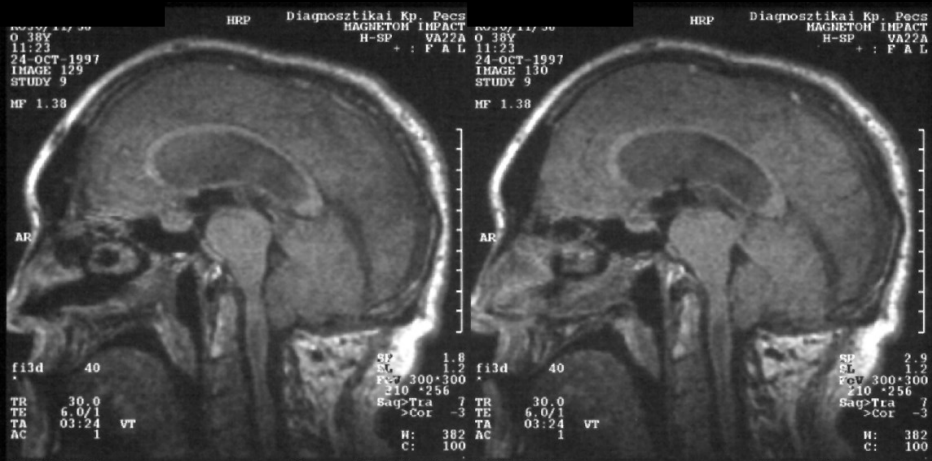
A neuroendoszkópia szövődményei

Mortalitás: 1/260

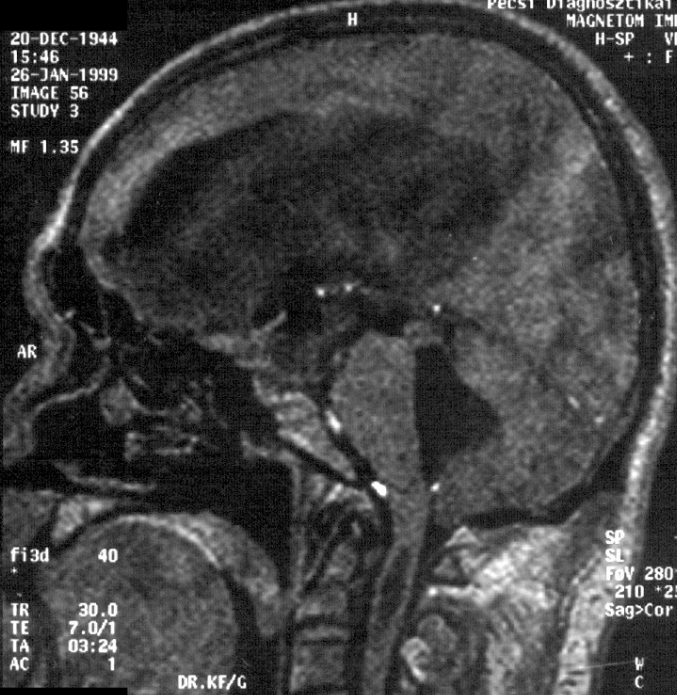
Morbiditás:

súlyos kamrai vérzés	1
meningoencephalitis	3
sebfertőzés	2
compressios törés	1
sikertelen ventr.stomia	1
2-4 napos subfebrilitás	kb. 40 %





20-DEC-1944
15:46
26-JAN-1999
IMAGE 56
STUDY 3
MF 1.35

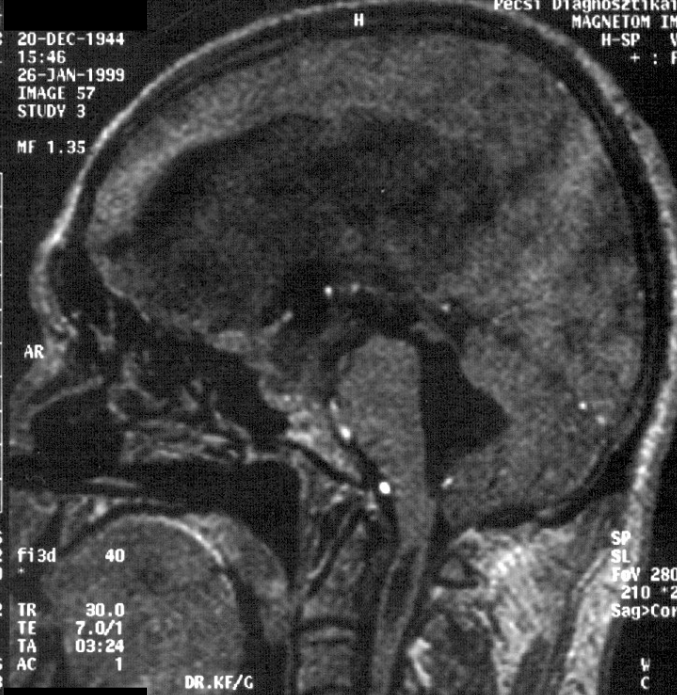


Fi3d 40
+
TR 30.0
TE 7.0/1
TA 03:24
AC 1

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB31E
+ : F A L
SP -6.6
SL 1.2
FoV 280*280
210 *256
Sag>Cor -2
W 546
C 278

DR.KF/G

20-DEC-1944
15:46
26-JAN-1999
IMAGE 57
STUDY 3
MF 1.35



Fi3d 40
+
TR 30.0
TE 7.0/1
TA 03:24
AC 1

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB31E
+ : F A L
SP -5.5
SL 1.2
FoV 280*280
210 *256
Sag>Cor -2
W 546
C 278

DR.KF/G

20-DEC-1944
15:46
26-JAN-1999
IMAGE 58
STUDY 3
MF 1.35

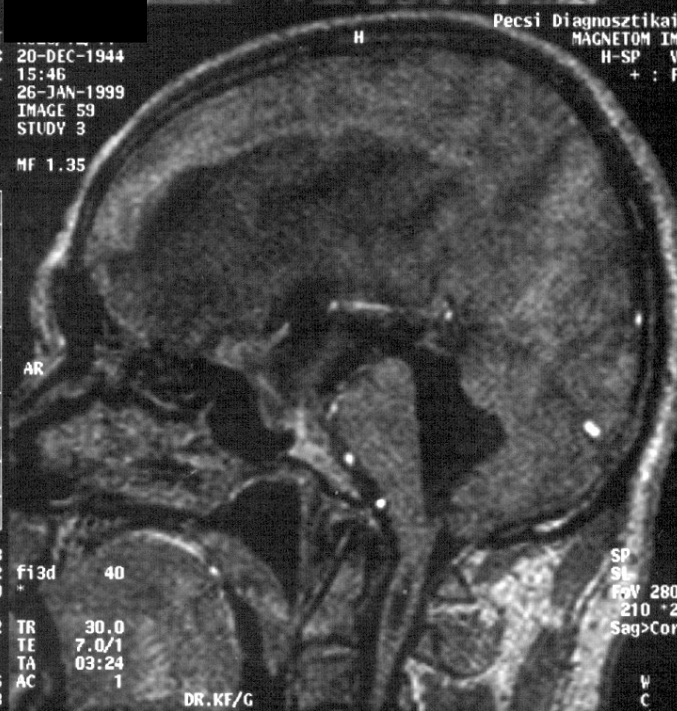


Fi3d 40
+
TR 30.0
TE 7.0/1
TA 03:24
AC 1

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB31E
+ : F A L
SP -4.3
SL 1.2
FoV 280*280
210 *256
Sag>Cor -2
W 546
C 278

DR.KF/G

20-DEC-1944
15:46
26-JAN-1999
IMAGE 59
STUDY 3
MF 1.35



Fi3d 40
+
TR 30.0
TE 7.0/1
TA 03:24
AC 1

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB31E
+ : F A L
SP -3.2
SL 1.2
FoV 280*280
210 *256
Sag>Cor -2
W 546
C 278

DR.KF/G

20-DEC-1944
16:00
08-JUN-1999
IMAGE 84
SER 1-5

MF 1.39

AR

F13d 40
* D
TR 30.0
TE 7.0/1
TA 02:33
AC 1

KF/KI

HLA

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB33A
+ : F A L

SP -3.2
SL 1.2
FoV 225*300
157 *256
Sag>Cor -11
>Tra -2
V 542
C 244

20-DEC-1944
16:00
08-JUN-1999
IMAGE 85
SER 1-5

MF 1.39

AR

F13d 40
* D
TR 30.0
TE 7.0/1
TA 02:33
AC 1

KF/KI

HLA

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB33A
+ : F A L

SP -2.1
SL 1.2
FoV 225*300
157 *256
Sag>Cor -11
>Tra -2
V 542
C 244

20-DEC-1944
16:00
08-JUN-1999
IMAGE 88
SER 1-5

MF 1.39

AR

F13d 40
* D
TR 30.0
TE 7.0/1
TA 02:33
AC 1

KF/KI

HLA

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB33A
+ : F A L

SP 1.4
SL 1.2
FoV 225*300
157 *256
Sag>Cor -11
>Tra -2
V 542
C 244

20-DEC-1944
16:00
08-JUN-1999
IMAGE 89
SER 1-5

MF 1.39

AR

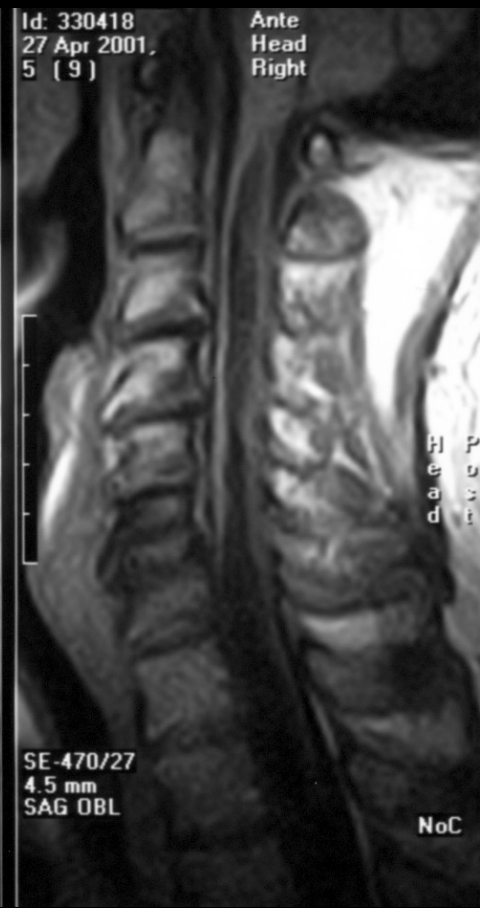
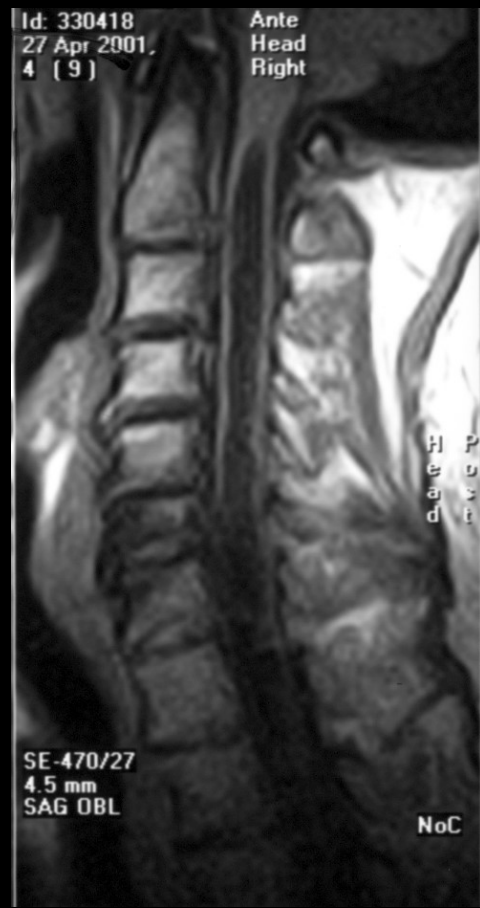
F13d 40
* D
TR 30.0
TE 7.0/1
TA 02:33
AC 1

KF/KI

HLA

Pecsi Diagnosztikai Kp.
MAGNETOM IMPACT
H-SP VB33A
+ : F A L

SP 2.6
SL 1.2
FoV 225*300
157 *256
Sag>Cor -11
>Tra -2
V 542
C 244



K018/4/53
18-APR-1953
13:09
19-SEP-2001
IMAGE 50
SER 1-3

HL

MÁGNATOM IMPACT
H-SP VB33D
+ : F A L



f12d 90
*R
TR 300.0
TE 10.0/1
TA 04:14
AC 4
VT

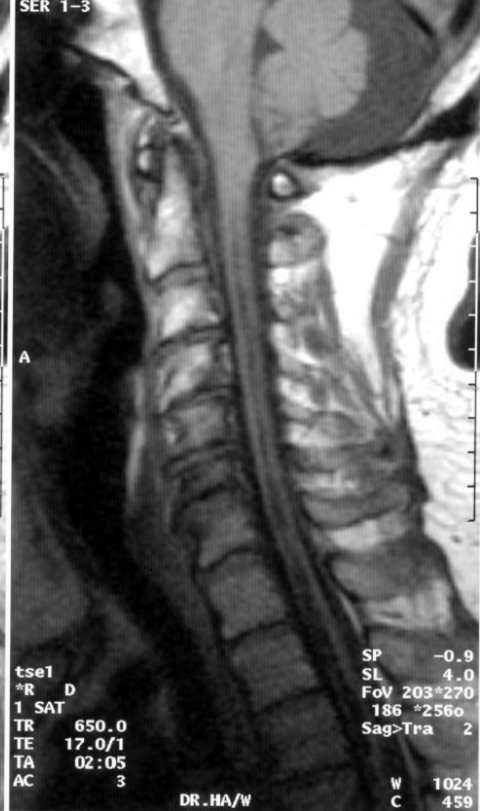
GC18/04/33
18-APR-1933
15:29
19-SEP-2001
IMAGE 18
SER 1-3

Pécsi Diagnosztikai Kp.
H-SP VB33D
+ : F A L



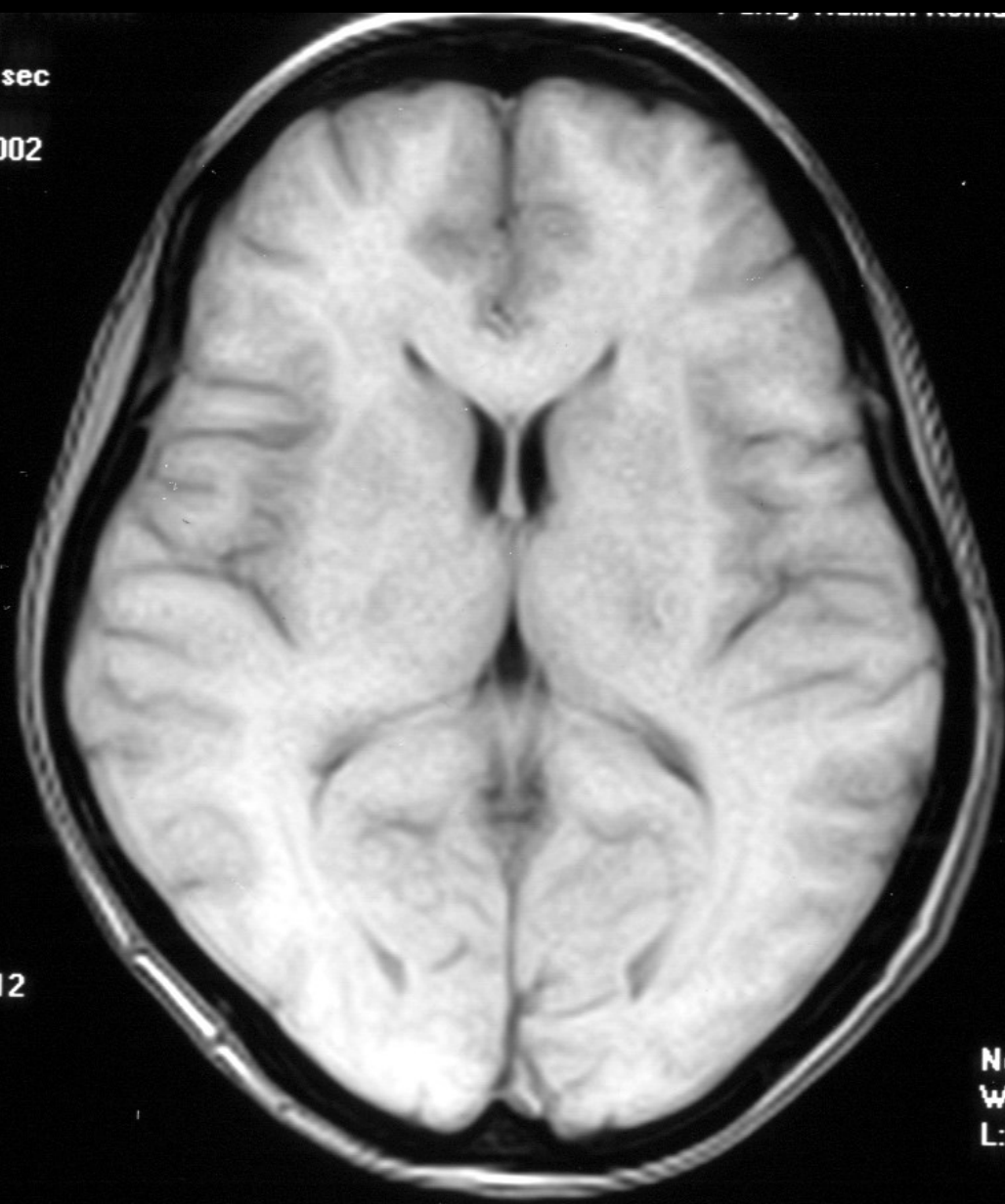
GC18/04/33
18-APR-1933
15:29
19-SEP-2001
IMAGE 19
SER 1-3

Pécsi Diagnosztikai Kp.
H-SP VB33D
+ : F A L



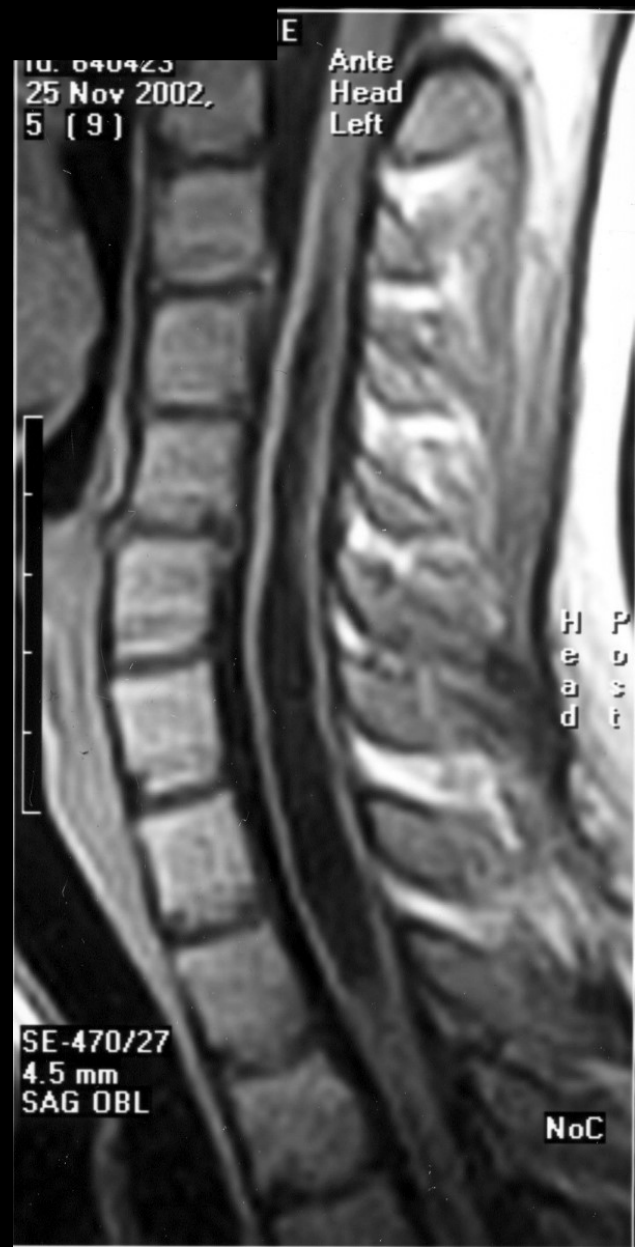
SP -0.9
SL 4.0
FoV 203*270
186 *2560
Sag>Tra 2
W 1024
C 459

64/04/23
3 min 22 sec
8 (16)
12 Dec 2002



FE3D-39/12
TRA
7.0 mm
FA:40

NoC
W:95
L:61



10. 040423
25 Nov 2002,
5 (9)

SE-470/27
4.5 mm
SAG OBL

NoC

