

On-line Table 1: Demographics of procedures of patients with DL^a

No.	Placed Coils (No.)	Total No. of Coils	Guiding System	Median Catheter	Microcatheter (No.)	Microguidewire (No.)	Adjunctive Technique	Fluoroscopy Time (min)	Contrast Volume (mL)	Contrast Agent
1	GDC coils (20)	20	Shuttle sheath (5F)	Not used	Tracker Excel 14 (I) ^b	SilverSpeed 14 ^d X-pedion 10 ^d	Balloon-assisted	99.2	300	Ioxaglic acid
2	Target 360 Ultra (6) ^c Target Helical Ultra (5) Target 360 Soft (2) Matrix ² 360 Soft/Ultra soft/Helical (6) ^c	22	OPTIMO ^h (8F)	Not used	Excelsior SL-10 (2) ^c	CHIKAI-14 (I) ^e	Double catheter	126.8	225	Iohexol
3	Matrix ² 360/3D/2D (3) Target Helical Ultra (I) Matrix ² 360 Soft (I)	2	Merci ^f (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 (I)	Double catheter	55.6	150	Ioxaglic acid
4	Target Helical Ultra (4) Target Nano 360 (I) Target 3D (I)	6	FUBUKI ^e (5F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 (I)	Double catheter	120.4	260	Ioxaglic acid
5	Target 360 Ultra (I) Target Nano 360 (3) Matrix ² 360 Soft (I)	5	Merci balloon guiding (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 (2)	Double catheter	126.9	210	Iodixanol
6	Target 360 Ultra (2) Target Nano 360 (3) Target 360 Soft (I) ED Coil complex (I)	7	OPTIMO (8F)	Not used	Excelsior SL-10/Excelsior XT-27 Flex 45°	CHIKAI-14 (3)	Stent-assisted	169.4	225	Iodixanol
7	Target 360 Ultra (3) Target Nano 360 (6) Target 360 Soft (I) Target Nano 360 (I)	10	OPTIMO (8F)	DAC 044 (115 cm) ^c	Excelsior SL-10 (2)	CHIKAI-14 (2)	Double catheter	110.3	190	Iodixanol
8	Target 360 Ultra (I) Target Nano 360 (4) Matrix ² 360 Soft (I)	6	Merci (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 Synchro 2 Soft	Double catheter	110.3	90	Iodixanol
9	Target Helical Ultra (2) Target Nano 360 (2) Target 360 Soft (I)	5	Merci (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 Synchro 2 Soft ^b	Double catheter	66	170	Iodixanol
10	Target Nano 360 (3) Target Nano 360 (8) Target 360 Ultra (19)	11	OPTIMO (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 (2)	Double catheter	160.9	230	Iodixanol
11	Target XL 360 STD/Soft/Mini (12) ED Coil standard/complex (5)	36	Envoy MPC (6F) ^g	Not used	Excelsior SL-10/Excelsior XT-17	CHIKAI-14 Synchro 2 Soft	Double catheter	158.4	217	Iodixanol

Continued on next page

On-line Table 1: Continued

No.	Placed Coils (No.)	Total No. of Coils	Guiding System	Median Catheter	Microcatheter (No.)	Microguidewire (No.)	Adjunctive Technique	Fluoroscopy Time (min)	Contrast Volume (mL)	Contrast Agent
12	Target 360 Ultra (7) Target Nano 360 (3) Target 360 Soft (2) Target XL 360 Soft (1) Target XL Mini 360 (2) Target 360 Ultra (1) Target Nano 360 (6) Matrix ² 360 Soft (1)	15	FlowGate2 (8F) ^c	Not used	Excelsior SL-10/Excelsior XT-17	CHIKAI-14 (2) Transend (1) ^c	Double catheter	353.3	335	Ioversol
13	Target 360 Ultra (1) Target Nano 360 (6) Matrix ² 360 Soft (1)	8	FlowGate2 (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 (2)	Double catheter	116.9	200	Iodixanol
14	Target 360 Ultra (3) Target Nano 360 (9) Matrix ² 360 Soft (1)	12	OPTIMO (8F)	Not used	Excelsior SL-10 (2)	CHIKAI-14 (2)	Double catheter	79.1	250	Ioxaglic acid
15	Target 360 Ultra (1) Target Nano 360 (9) Matrix ² 360 Soft (1) Target 3D (2) Target Helical Ultra (1) Target 360 Soft (1) Target Nano 360 (9) Target XL 360 Soft (2) Target 360 Soft (2) Target 360 Ultra (13)	14	Merci (8F)	Not used	Excelsior SL-10/Excelsior XT-17	CHIKAI-14 Synchro 2 Soft	Double catheter	195.9	225	Ioversol
16		17	Shuttle sheath (6F)	Not used	Excelsior SL-10/Excelsior XT-17	CHIKAI-14 (2)	Double catheter	223.6	230	Ioversol

Note:—GDC indicates Guglielmi detachable coil.

^a Numbers in parentheses represent the number of devices.

^b Target Therapeutics/Boston Scientific, Fremont, California.

^c Stryker Neurovascular, Kalamazoo, Michigan.

^d Covidien, Irvine, California.

^e Asahi-Intecc USA Medical, Tustin, California.

^f Concentric Medical, Mountain View, California.

^g Codman & Shurtleff, Raynham, Massachusetts.

^h Tokai Medical.

On-line Table 2: Total number of guiding systems used in procedures with and without DL complications, by manufacturer (January 2006 to December 2017)

Manufacturer (Guiding System)	Without DL	With DL	Total
Cook	37.0% (807/2181)	10.5% (2/19)	36.8% (809/2200)
Tokai Medical Products	19.8% (431/2181)	26.3% (5/19)	19.8% (436/2200)
Johnson & Johnson/Cerenovus	16.2% (353/2181)	5.3% (1/19)	16.1% (354/2200)
Stryker	14.4% (313/2181)	47.4% (9/19)	14.6% (322/2200)
Terumo	6.7% (146/2181)	5.3% (1/19)	6.7% (147/2200)
Medikit	3.6% (78/2181)	0%	3.6% (78/2200)
Medtronic/Covidien	0.7% (15/2181)	0%	0.7% (15/2200)
Asahi-Intecc	0.3% (7/2181)	5.3% (1/19)	0.4% (8/2200)
Gadellius Medical/Cathex	0.4% (8/2181)	0%	0.4% (8/2200)
Boston Scientific	0.1% (3/2181)	0%	0.1% (3/2200)
Goodman	0.1% (2/2181)	0%	0.1% (2/2200)
Unknown	0.8% (18/2181)	0%	0.8% (18/2200)
Total	100% (2181/2181)	100% (19/19)	100% (2200/2200)

On-line Table 3: Total number of microcatheters and balloon catheters by manufacturer for procedures with and without DL complication (January 2006 to December 2017)

Manufacturer (Microcatheters)	Without DL	With DL	Total
Stryker/Boston Scientific	77.1% (2852/3697)	84.6% (33/39)	77.3% (2885/3736)
Johnson & Johnson/Cerenovus	3.1% (116/3697)	0%	3.1% (116/3736)
Terumo	1.5% (57/3697)	0%	1.5% (57/3736)
Medtronic/Covidien	1.2% (45/3697)	0%	1.2% (45/3736)
Medico's Hirata	0.2% (6/3697)	0%	0.2% (6/3736)
(Balloon catheters) ^a	16.8% (621/3697)	15.4% (6/39)	16.8% (6/3736)
Total	100% (3697/3697)	100% (39/39)	100% (3736/3736)

^a Various manufacturers.

On-line Table 4: Total number of microguidewires by manufacturer for procedures with and without DL complications (January 2006 to December 2017)

Manufacturer (Microguidewires)	Without DL	With DL	Total
Medtronic/Covidien	50.4% (1522/3019)	9.1% (2/22)	50.1% (1524/3041)
Asahi-Intecc	36.5% (1101/3019)	68.2% (15/22)	36.7% (1116/3041)
Stryker	9.8% (295/3019)	22.7% (5/22)	9.9% (300/3041)
Boston Scientific	1.8% (54/3019)	0%	1.8% (54/3041)
Terumo	1.0% (31/3019)	0%	1.0% (31/3041)
Johnson & Johnson/Cerenovus	0.5% (14/3019)	0%	0.5% (14/3041)
Kaneka Medix	0.03 (1/3019)	0%	0.03% (1/3041)
Medico's Hirata	0.03 (1/3019)	0%	0.03% (1/3041)
Total	100% (3019/3019)	100% (22/22)	100% (3041/3041)

On-line Table 5: Total number of coils used in procedures with and without DL complications by manufacturer (January 2006 to December 2017)

	Without DL	With DL	Total
Stryker (Target)	46.2% (8372/18,137)	79.4% (158/199)	46.5% (8530/18,336)
Boston Scientific (GDC)	27.8% (5046/18,137)	10.6% (21/199)	27.6% (5067/18,336)
Boston Scientific (Matrix ²)	21.5% (3902/18,137)	7.0% (14/199)	21.4% (3916/18,336)
Kaneka Medix (ED)	2.4% (429/18,137)	3.0% (6/199)	2.4% (435/18,336)
Johnson & Johnson/Cerenovus (Micrus etc)	2.0% (355/18,137)	0%	1.9% (355/18,336)
Medtronic (Axiom)	0.2% (33/18,137)	0%	0.2% (33/18,336)
Total	100% (18,137/18,137)	100% (61/61)	100% (18,336/18,336)