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Overview of Regular Dialysis Treatment in Japan as of 31 December 2006

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Abstract: A statistical survey of dialysis patients for the year 2006 was carried out for 4051 medical facilities across Japan, and responses were received from 3985 (98.37%) facilities. There were 264 473 dialysis patients (including 9003 peritoneal dialysis patients) in Japan at the end of 2006, which showed an increase of 6708 (2.6%) from the end of 2005. The number of patients per million population was 2069.9. The crude mortality rate during 2006 was 9.2%. The mean age of the patients who began dialysis (in 2006) was 66.4 years, and the mean age of the entire dialysis population was 64.4 years. The primary renal diseases of the patients who began dialysis were diabetic nephropathy (42.9%), chronic glomerulonephritis (25.6%), and nephrosclerosis (9.4%). Of the 3488 facilities that participated in the survey on the dialysate water quality, 2873 facilities (82.4%) measured the endotoxin concentration in the dialysate; and 1197 facilities (37.1%) out of 3228 measured the bacterial count in the dialysate. The mean hemoglobin concentration in the dialysis population at the end of 2006 was 10.23 ± 1.33 g/dL, which was equal to that at the end of 2005 (10.23 ± 1.37 g/dL). The mean concentration of serum creatinine in 15 853 patients who started dialysis during 2006 was 8.37 ± 3.58 mg/dL. The estimated glomerular filtration rate, which was calculated with formula modified for the Japanese population from the Modification of Diet in Renal Disease (MDRD) Study equation, was 5.46 ± 6.60 mL/min/1.73 m^2. **Key Words:** Annual mortality, Dialysate quality, Dialysis, Endotoxin, End-stage renal disease, Diet modification, Survey.

The Japanese Society for Dialysis Therapy has conducted a statistical survey of dialysis facilities across the country once a year since 1968. A nationwide statistical survey of 4051 dialysis facilities was conducted at the end of 2006, and 3985 facilities (98.37%) responded. The number of patients undergoing dialysis at the end of 2006 determined on the basis of the survey results from dialysis facilities was 264 473, an increase of 6708 patients (2.6%) from 2005. The crude mortality rate of dialysis patients in 2006 was 9.2%; there has been no significant change in the crude mortality rate in the last 10 years (1).

In the first part of this report, basic data on chronic dialysis patients in Japan at the end of 2006 are summarized. The second part summarizes the data obtained from the survey on the following two new items: the clinical condition of patients upon introduction to dialysis; and the current status of dialysate quality control.

In April 2006 the point system of the National Health Insurance (NHI) regarding fee allocation for medical treatment was revised, and the cost of erythropoietin was included in the dialysis management fee. Following this change, there is a possibility that the erythropoietin dose and the clinical condition of renal anemia of the patients have changed. Therefore, in the third part of this report, the status of renal anemia therapy at the end of 2006 was compared with

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that at the end of 2005. On the basis of the results of this comparison, the effects of the revision of the NHI on the clinical condition of renal anemia of dialysis patients and its therapy were examined.

PATIENTS AND METHODS

This survey is conducted every year by sending questionnaires to individual dialysis facilities at the end of each year. The 4051 facilities surveyed at the end of 2006, increased by 66 (1.66%) from that in the preceding year's survey. The questionnaires were sent and collected by mail, although they were also faxed to some of the facilities. A floppy disk instead of the paper questionnaire was sent to the facilities that had earlier indicated a preference for it.

The survey investigated both the facilities and the patients. The facility survey contained items that related to the details of dialysis facilities, such as the numbers of patients, staff members, and the hemodialysis capacity, were investigated (using the questionnaire referred to as "Sheet I"). The patient survey investigated the epidemiological background, treatment conditions, and outcomes (using the questionnaires referred to as "Sheets II, III, and IV").

The response rate for the survey (collection rate of the questionnaire [Sheet I] at the end of 2006) was 98.37% (3985 facilities), which was almost identical to that for the 2005 survey (98.89%). The number of facilities that replied to both questionnaires, that is, the facility survey and the patient survey, was 3807 facilities (93.98%), which was also almost identical to that for the 2005 survey (93.73%). In addition, the number of facilities that responded via floppy disk was 2758 facilities (69.21%).

I. Tabulation of basic data on chronic dialysis patients at the end of 2006

Data on dialysis patient population dynamics for the year 2006 were tabulated mainly on the basis of the results of the facility survey. The data included the number of new patients begun on dialysis, the number of patients who died, the crude mortality rate for the year 2006, and the total number of dialysis patients at the end of 2006. The cumulative survival rate after introduction onto dialysis was actuarially calculated (2).

II. Tabulation of data on new items surveyed

Items investigated for the first time in this survey were the clinical condition of patients at the introduction of dialysis, the current status of dialysate quality control, and the current status of renal anemia therapy. Tabulation was carried out on these items.

RESULTS AND DISCUSSION

I. Tabulation of basic data on chronic dialysis patients at the end of 2006

1. Number of patients

Table 1 shows a summary of the dynamics of the dialysis patient population in Japan at the end of 2006 obtained from the present survey. Only the data on the durations of dialysis and the longest dialysis shown in this table were obtained from the patient survey, otherwise parameters were obtained from the facility survey.

The total number of dialysis patients in Japan at the end of 2006 was 264 473, as determined from the facility survey. The number of dialysis patients at the end of 2005 was 257 765, showing an increase of 2.6% (6708 patients) from the end of 2005 to the end of 2006. Except for the data at the end of 1989, when the collection rate of the questionnaire was significantly low, it is the first time that a rate of increase in the number of dialysis patients from the previous year of $\leq$3% has been obtained.

For reference, the trend for the rate of the annual increase in the number of dialysis patients since 1980 is shown in Figure 1. As shown in the figure, it is obvious that the rate of increase in the number of dialysis patients decreases linearly. In Figure 1 an estimated trend of the rate obtained by linear regression is also shown. If this estimation is correct, the increase in the dialysis patient population will stop between 2013 and 2014.

The number of facilities that responded to the questionnaire at the end of 2006 was 3985, which increased by 45 (1.1%) from the previous year. The number of patient stations at the end of 2006 was 104 382, which increased by 3830 (3.8%) from the previous year. The rates of increase in the number of patient stations and in the number of dialysis patients were higher than that in the number of dialysis facilities. This finding indicates that the number of patients treated at any one facility has been increasing. The total number of patients who can simultaneously receive dialysis was 103 573 this year, which is the first time for this number to exceed 100 000. Moreover, the maximum capacity of all the facilities to treat patients was 350 943; this number also exceeds 350 000 for the first time this year.

The percentage of patients who received dialysis during the daytime increased to 80.7%, whereas that during the nighttime decreased to 15.7%. The longest duration on chronic dialysis was 39 years.

Table 2 shows the total number of dialysis patients in each prefecture of Japan determined from the facility survey. The number of dialysis patients per

TABLE 1. *Current status of chronic dialysis therapy in Japan (as of 31 December 2006)*

Number of facilities	3 985	Increase of 45 (1.1%)
Equipment		
Number of patient stations	104 382	Increase of 3 830 (3.8%)
Capacity		
Simultaneous dialysis (people)	103 573	Increase of 3 690 (3.7%)
Maximum accommodation capacity (people)	350 943	Increase of 11 528 (3.4%)
Chronic dialysis patients†	264 473	Increase of 6 708
Daytime dialysis	213 454 (80.7%)	
Nighttime dialysis	41 641 (15.7%)	
Home dialysis	147 (0.1%)	
CAPD	9 003 (3.4%)	
IPD	220 (0.1%)	
Number of patients newly introduced to dialysis	36 373	Increase of 310 (0.9%)
Number of deceased patients	24 034	Increase of 51 (0.2%)

†The total number of chronic dialysis patients is the total of the column for the number of patients in Sheet I, and does not necessarily agree with the total number of patients counted according to the method of treatment. CAPD, continuous ambulatory peritoneal dialysis; IPD, intermittent peritoneal dialysis.

Years on dialysis‡	Male	Female	Unknown	Total
0–4	79 246	45 271	59	124 576 (49.8%)
5–9	37 735	24 378	4	62 117 (24.9%)
10–14	17 662	12 653	3	30 318 (12.1%)
15–19	8 496	6 923	0	15 419 (6.2%)
20–24	5 042	4 210	0	9 252 (3.7%)
≥25	4 707	3 568	0	8 275 (3.3%)
Total	152 888	97 003	66	249 957 (100.0%)
Patients per million	2 069.9	Increase of 52.3		
Longest dialysis history	39 years and 0 months			

‡The number of dialysis patients was calculated from questionnaire Sheets II to IV.

million population at the end of 2006 was 2069.9. Table 3 shows the change in the number of dialysis patients per million population. The number of patients per million population is increasing each year.

2. Mean age

The dialysis patient population in Japan is aging yearly. The patient survey showed that the mean age of new patients started on dialysis in 2006 was 66.4 ± 13.4 years (mean ± SD) and the mean age of the prevalent dialysis patient population in 2006 was 64.4 ± 12.8 years (Table 4). The dialysis patient population aged by 7.5 years from the end of 1986 to the end of 1996, but aged by only 6.4 years from the end of 1996 to the end of 2006. The rate of aging of the dialysis patient population has decreased. The mean age of new patients started on dialysis increased by 6.4 years from the end of 1986 to the end of 1996, but increased by only 4.9 years from the end of 1996 to the end of 2006. These findings show that the rate of aging of new patients started on dialysis has also decreased.

Table 5 shows the gender and age distributions of new patients started on dialysis in 2006. Table 6 shows the gender and age distributions of prevalent dialysis patients in 2006. Tables 7 and 8 show the age distribution according to the primary renal disease. The data in these tables were obtained from the results of the patient survey.

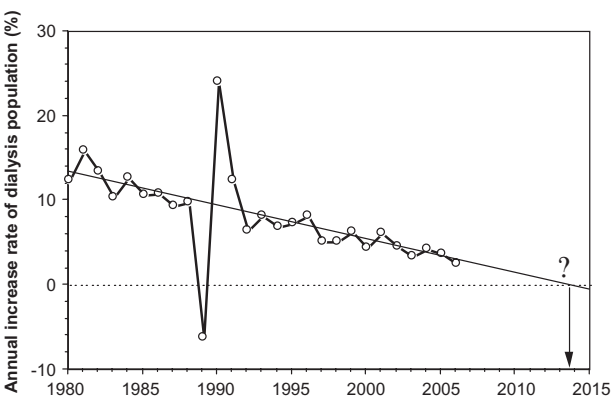

FIG. 1. The trend for the rate of the annual increase in the number of dialysis patients since 1980.

3. Primary renal disease of new patients started on dialysis

Table 7 shows a summary of the primary renal diseases of new patients started on dialysis in 2006.

TABLE 2. *The number of chronic dialysis patients in each prefecture*

Administrative division names	Daytime	Nighttime	Home hemodialysis	CAPD	IPD	Total†
Hokkaido	10 881	1 491	3	424	18	12 817
Aomori prefecture	2 501	207	0	119	4	2 831
Iwate prefecture	2 118	356	0	147	3	2 625
Miyagi prefecture	3 266	751	0	103	0	4 120
Akita prefecture	1 575	138	0	80	0	1 793
Yamagata prefecture	1 672	280	1	175	1	2 129
Fukushima prefecture	3 510	413	0	222	6	4 153
Ibaraki prefecture	5 126	844	1	154	0	6 125
Tochigi prefecture	4 076	746	1	58	2	4 883
Gunma prefecture	3 652	713	0	102	0	4 468
Saitama prefecture	10 818	1 921	8	430	0	13 177
Chiba prefecture	8 897	1 983	0	247	3	11 130
Tokyo	20 153	4 950	5	821	25	25 954
Kanagawa prefecture	12 213	2 937	4	405	21	15 582
Niigata prefecture	3 246	1 104	1	126	1	4 478
Toyama prefecture	1 747	311	0	75	0	2 133
Ishikawa prefecture	1 962	304	0	95	0	2 360
Fukui prefecture	1 310	175	0	70	0	1 555
Yamanashi prefecture	1 674	207	1	49	0	1 931
Nagano prefecture	3 390	604	2	144	0	4 140
Gifu prefecture	3 165	585	1	163	4	3 919
Shizuoka prefecture	6 765	1 344	3	304	3	8 421
Aichi prefecture	10 170	3 040	32	467	3	13 712
Mie prefecture	2 815	645	3	102	13	3 578
Shiga prefecture	1 958	450	8	68	2	2 486
Kyoto prefecture	3 899	1 001	2	175	4	5 081
Osaka prefecture	15 536	3 012	45	682	13	19 287
Hyogo prefecture	8 852	1 613	8	342	24	10 839
Nara prefecture	2 450	223	4	115	1	2 793
Wakayama prefecture	2 127	345	1	31	2	2 506
Tottori prefecture	952	118	0	133	1	1 204
Shimane prefecture	1 042	152	0	90	0	1 284
Okayama prefecture	3 277	489	0	230	30	4 026
Hiroshima prefecture	5 358	584	1	431	4	6 378
Yamaguchi prefecture	2 487	373	0	124	1	2 985
Tokushima prefecture	1 792	255	0	174	2	2 223
Kagawa prefecture	1 850	297	6	198	16	2 367
Ehime prefecture	2 563	412	1	147	1	3 122
Kochi prefecture	1 778	168	0	37	2	1 985
Fukuoka prefecture	9 549	2 226	0	303	6	12 084
Saga prefecture	1 509	292	0	14	0	1 815
Nagasaki prefecture	2 770	470	1	134	3	3 378
Kumamoto prefecture	4 409	953	0	143	0	5 506
Oita prefecture	2 864	374	2	114	0	3 352
Miyazaki prefecture	2 774	557	0	59	0	3 390
Kagoshima prefecture	4 074	514	2	97	1	4 690
Okinawa prefecture	2 882	714	0	80	0	3 678
Total	213 454	41 641	147	9003	220	264 473

†The total number of chronic dialysis patients is the total of the column for the number of patients in Sheet I, and does not necessarily agree with the total number of patients counted according to the method of treatment. CAPD, continuous ambulatory peritoneal dialysis; IPD, intermittent peritoneal dialysis.

Table 8 shows a summary of the primary renal diseases of the prevalent patients in 2006.

Table 9 shows changes in the percentage of patients according to the main primary renal disease of the new patients started on dialysis in 2006. Since 1983, when the patient survey was first conducted, the number of patients with diabetic nephropathy as a primary renal disease has continuously increased. By 1997 the number of patients with chronic glomerulonephritis as the primary renal disease causing end-stage renal disease (ESRD) among the new patients started on dialysis each year was the largest. However, patients with diabetic nephropathy as the primary renal disease made up the largest number of new patients started on dialysis in 1998. The number of patients with diabetic nephropathy has since continuously increased. The percentage of patients with diabetic nephropathy newly started on dialysis reached 42.2% in 2006. In contrast, the percentage of patients with chronic glomerulonephritis as the

TABLE 3. *Changes in the number of patients per million*

Year	Patients per million	Year	Patients per million
1983	443.7	1995	1229.7
1984	497.5	1996	1328.4
1985	547.8	1997	1394.9
1986	604.4	1998	1472.5
1987	658.8	1999	1556.7
1988	721.1	2000	1624.1
1989*	790.0	2001	1721.9
1990	835.7	2002	1801.2
1991	937.6	2003	1862.7
1992	995.8	2004	1943.5
1993	1076.4	2005	2017.6
1994	1149.4	2006	2069.9

*Adjusted at the response rate of 86%; the figures are rounded out at 5 to the nearest 1000.

primary renal disease decreased yearly, down to 25.6% in 2006. The percentage of patients with an "undetermined" primary renal disease increased yearly. In clarifying the distribution of the primary renal diseases of new patients started on dialysis, the increase in the number of patients with an "undetermined" primary renal disease is problematic. Patients with an "undetermined" primary renal disease accounted for 9.9% of new patients started on dialysis in 2006, and were the third largest in number

TABLE 4. *Changes in the annual number of patients newly started on dialysis and in the mean age of patients at the end of the year*

	Mean age of patients newly started on dialysis treatment		Mean age of patients at the end of each year	
Year	Mean	SD	Mean	SD
1983	51.9	15.5	48.3	13.8
1984	53.2	15.3	49.2	13.8
1985	54.4	15.4	50.3	13.7
1986	55.1	15.2	51.1	13.6
1987	55.9	14.9	52.1	13.7
1988	56.9	14.9	52.9	13.6
1989	57.4	14.7	53.8	13.5
1990	58.1	14.6	54.5	13.5
1991	58.1	14.6	55.3	13.5
1992	59.5	14.5	56.0	13.5
1993	59.8	14.4	56.6	13.5
1994	60.4	14.3	57.3	13.5
1995	61.0	14.2	58.0	13.4
1996	61.5	14.2	58.6	13.4
1997	62.2	14.0	59.2	13.4
1998	62.7	13.9	59.9	13.3
1999	63.4	13.9	60.6	13.3
2000	63.8	13.9	61.2	13.2
2001	64.2	13.7	61.6	13.1
2002	64.7	13.6	62.2	13.0
2003	65.4	13.5	62.8	12.9
2004	65.8	13.4	63.3	12.9
2005	66.2	13.4	63.9	12.8
2006	66.4	13.4	64.4	12.8

TABLE 5. *Patients newly started on dialysis in 2006 and their age and sex*

Age of the patients when newly started on dialysis (years)	Male (%)†	Female (%)†	Subtotal (%)†	No information available	Total (%)†
0–4	9 (0.0)	4 (0.0)	13 (0.0)	0	13 (0.0)
5–9	7 (0.0)	5 (0.0)	12 (0.0)	0	12 (0.0)
10–14	8 (0.0)	3 (0.0)	11 (0.0)	0	11 (0.0)
15–19	33 (0.1)	19 (0.2)	52 (0.1)	0	52 (0.1)
20–24	60 (0.3)	27 (0.2)	87 (0.2)	0	87 (0.2)
25–29	111 (0.5)	75 (0.6)	186 (0.5)	1	187 (0.5)
30–34	277 (1.2)	148 (1.2)	425 (1.2)	1	426 (1.2)
35–39	467 (2.1)	227 (1.8)	694 (2.0)	0	694 (2.0)
40–44	637 (2.8)	318 (2.5)	955 (2.7)	0	955 (2.7)
45–49	928 (4.1)	415 (3.3)	1 343 (3.9)	0	1 343 (3.9)
50–54	1 521 (6.8)	745 (6.0)	2 266 (6.5)	0	2 266 (6.5)
55–59	2 698 (12.1)	1 184 (9.5)	3 882 (11.1)	2	3 884 (11.1)
60–64	2 734 (12.2)	1 305 (10.5)	4 039 (11.6)	3	4 042 (11.6)
65–69	3 168 (14.2)	1 609 (12.9)	4 777 (13.7)	3	4 780 (13.7)
70–74	3 650 (16.3)	1 855 (14.9)	5 505 (15.8)	3	5 508 (15.8)
75–79	3 110 (13.9)	1 956 (15.7)	5 066 (14.5)	2	5 068 (14.5)
80–84	2 007 (9.0)	1 579 (12.7)	3 586 (10.3)	2	3 588 (10.3)
85–89	745 (3.3)	767 (6.1)	1 512 (4.3)	2	1 514 (4.3)
90–94	195 (0.9)	209 (1.7)	404 (1.2)	0	404 (1.2)
≥95	23 (0.1)	26 (0.2)	49 (0.1)	0	49 (0.1)
Subtotal	22 388 (100.0)	12 476 (100.0)	34 864 (100.0)	19	34 883 (100.0)
No information available	196	104	300	9	309
Total	22 584	12 580	35 164	28	35 192
Mean (years)	65.59	67.84	66.40	66.58	66.40
SD (years)	13.15	13.73	13.40	15.26	13.40

†The value in parentheses on the right-hand side of each number is the percentage of patients with respect to the subtotal of the column.

TABLE 6. *Number of new patients started on dialysis in 2006 and their age and sex*

Age (years)	Male (%)†	Female (%)†	Subtotal (%)†	No information available	Total (%)†
0–4	17 (0.0)	18 (0.0)	35 (0.0)	0	35 (0.0)
5–9	11 (0.0)	12 (0.0)	23 (0.0)	0	23 (0.0)
10–14	19 (0.0)	13 (0.0)	32 (0.0)	0	32 (0.0)
15–19	81 (0.1)	56 (0.1)	137 (0.1)	0	137 (0.1)
20–24	301 (0.2)	178 (0.2)	479 (0.2)	0	479 (0.2)
25–29	769 (0.5)	404 (0.4)	1 173 (0.5)	1	1 174 (0.5)
30–34	1 919 (1.3)	1 015 (1.0)	2 934 (1.2)	1	2 935 (1.2)
35–39	3 602 (2.4)	1 834 (1.9)	5 436 (2.2)	0	5 436 (2.2)
40–44	5 076 (3.3)	2 779 (2.9)	7 855 (3.1)	1	7 856 (3.1)
45–49	7 500 (4.9)	4 172 (4.3)	11 672 (4.7)	2	11 674 (4.7)
50–54	12 667 (8.3)	7 491 (7.7)	20 158 (8.1)	4	20 162 (8.1)
55–59	23 208 (15.2)	13 335 (13.8)	36 543 (14.6)	6	36 549 (14.6)
60–64	21 065 (13.8)	12 422 (12.8)	33 487 (13.4)	5	33 492 (13.4)
65–69	23 315 (15.3)	14 143 (14.6)	37 458 (15.0)	11	37 469 (15.0)
70–74	22 370 (14.6)	13 477 (13.9)	35 847 (14.3)	15	35 862 (14.4)
75–79	16 813 (11.0)	11 731 (12.1)	28 544 (11.4)	8	28 552 (11.4)
80–84	9 448 (6.2)	8 524 (8.8)	17 972 (7.2)	9	17 981 (7.2)
85–89	3 622 (2.4)	4 057 (4.2)	7 679 (3.1)	3	7 682 (3.1)
90–94	937 (0.6)	1 187 (1.2)	2 124 (0.9)	0	2 124 (0.8)
≥95	109 (0.1)	130 (0.1)	239 (0.1)	0	239 (0.1)
Subtotal	152 849 (100.0)	96 978 (100.0)	249 827 (100.0)	66	249 893 (100.0)
No information available	39	25	64	0	64
Total	152 888	97 003	249 891	66	249 957
Mean (years)	63.70	65.44	64.38	67.70	64.38
SD (years)	12.56	12.98	12.75	12.37	12.75

†The value in parentheses on the right-hand side of each number is the percentage of patients with respect to the subtotal of the column.

TABLE 7. *Numbers and mean ages of new patients started on dialysis in 2006 in terms of primary disease*

Primary disease	Number of patients (%)	No information available (%)	Total (%)	Mean age (years)	SD (years)
Chronic glomerulonephritis	8 853 (25.6)	61 (23.7)	8 914 (25.6)	65.94	14.48
Chronic pyelonephritis	294 (0.8)	1 (0.4)	295 (0.8)	65.20	14.96
Rapidly progressive glomerulonephritis	418 (1.2)	3 (1.2)	421 (1.2)	69.24	14.36
Nephropathy of pregnancy/Pregnancy toxemia	44 (0.1)	0 (0.0)	44 (0.1)	57.20	15.21
Other nephritides that cannot be classified	148 (0.4)	1 (0.4)	149 (0.4)	63.10	19.03
Polycystic kidney	825 (2.4)	2 (0.8)	827 (2.4)	60.70	12.65
Renal sclerosis	3 243 (9.4)	19 (7.4)	3 262 (9.4)	73.75	11.24
Malignant hypertension	267 (0.8)	2 (0.8)	269 (0.8)	62.38	17.37
Diabetic nephropathy	14 874 (43.0)	94 (36.6)	14 968 (42.9)	65.18	11.56
Systemic lupus erythematosus nephritis	264 (0.8)	4 (1.6)	268 (0.8)	60.91	15.16
Amyloidal kidney	168 (0.5)	0 (0.0)	168 (0.5)	65.70	11.16
Gouty kidney	113 (0.3)	0 (0.0)	113 (0.3)	65.23	12.45
Renal failure due to congenital abnormality of metabolism	30 (0.1)	0 (0.0)	30 (0.1)	44.43	24.74
Kidney and urinary tract tuberculosis	19 (0.1)	0 (0.0)	19 (0.1)	72.47	11.20
Kidney and urinary tract stone	75 (0.2)	0 (0.0)	75 (0.2)	70.89	9.24
Kidney and urinary tract tumor	155 (0.4)	3 (1.2)	158 (0.5)	70.80	11.78
Obstructive urinary tract disease	126 (0.4)	2 (0.8)	128 (0.4)	65.64	16.45
Myeloma	134 (0.4)	3 (1.2)	137 (0.4)	68.69	9.77
Hypoplastic kidney	51 (0.1)	0 (0.0)	51 (0.1)	39.33	27.18
Undetermined	3 410 (9.8)	44 (17.1)	3 454 (9.9)	69.13	13.80
Reintroduction after transplantation	219 (0.6)	5 (1.9)	224 (0.6)	54.24	16.29
Others	890 (2.6)	13 (5.1)	903 (2.6)	65.47	16.54
Subtotal	34 620 (100.0)	257 (100.0)	34 877 (100.0)	66.38	13.41
No information available	263	52	315	68.68	12.41
Total	34 883	309	35 192	66.40	13.40

The value in parentheses on the right-hand side of each number is the percentage of patients with respect to the subtotal of the column.

TABLE 8. *Number of all dialysis patients in 2006 according to primary disease and mean age*

Primary disease	Number of patients (%)	No information available (%)	Total (%)	Mean age	SD
Chronic glomerulonephritis	105 227 (42.2)	14 (48.3)	105 241 (42.2)	63.00	12.90
Chronic pyelonephritis	3 044 (1.2)	0 (0.0)	3 044 (1.2)	62.31	14.31
Rapidly progressive glomerulonephritis	1 600 (0.6)	0 (0.0)	1 600 (0.6)	64.38	14.34
Nephropathy of pregnancy/Pregnancy toxemia	1 737 (0.7)	1 (3.4)	1 738 (0.7)	59.26	9.89
Other nephritides that cannot be classified	1 112 (0.4)	0 (0.0)	1 112 (0.4)	57.17	16.92
Polycystic kidney	8 433 (3.4)	0 (0.0)	8 433 (3.4)	62.52	10.99
Renal sclerosis	15 349 (6.2)	3 (10.3)	15 352 (6.2)	72.74	11.92
Malignant hypertension	1 862 (0.7)	0 (0.0)	1 862 (0.7)	62.18	14.40
Diabetic nephropathy	80 534 (32.3)	9 (31.0)	80 543 (32.3)	65.37	10.92
Systemic lupus erythematosus nephritis	2 125 (0.9)	0 (0.0)	2 125 (0.9)	56.22	13.56
Amyloidal kidney	478 (0.2)	0 (0.0)	478 (0.2)	64.56	11.52
Gouty kidney	1 220 (0.5)	0 (0.0)	1 220 (0.5)	65.14	11.50
Renal failure due to congenital abnormality of metabolism	250 (0.1)	0 (0.0)	250 (0.1)	46.51	18.29
Kidney and urinary tract tuberculosis	396 (0.2)	0 (0.0)	396 (0.2)	68.83	9.97
Kidney and urinary tract stone	534 (0.2)	0 (0.0)	534 (0.2)	67.62	11.13
Kidney and urinary tract tumor	584 (0.2)	0 (0.0)	584 (0.2)	68.68	11.91
Obstructive urinary tract disease	673 (0.3)	0 (0.0)	673 (0.3)	60.33	18.30
Myeloma	216 (0.1)	0 (0.0)	216 (0.1)	69.02	11.73
Hypoplastic kidney	520 (0.2)	1 (3.4)	521 (0.2)	40.12	19.14
Undetermined	17 471 (7.0)	1 (3.4)	17 472 (7.0)	66.65	13.55
Reintroduction after transplantation	1 751 (0.7)	0 (0.0)	1 751 (0.7)	52.19	12.62
Others	4 330 (1.7)	0 (0.0)	4 330 (1.7)	61.97	16.40
Subtotal	249 446 (100.0)	29 (100.0)	249 475 (100.0)	64.37	12.75
No information available	447	35	482	66.89	12.95
Total	249 893	64	249 957	64.38	12.75

The value in parentheses on the right-hand side of each number is the percentage of patients with respect to the subtotal of the column.

following those with diabetic nephropathy and chronic glomerulonephritis. Following these three, patients with nephrosclerosis as the primary renal disease accounted for 9.4%. The number of patients with nephrosclerosis as the primary renal disease has been increasing. It is considered that this increase is caused by the aging of the new dialysis patients. The percentages of patients with polycystic kidney disease, rapidly progressive glomerulonephritis, chronic pyelonephritis, and systemic lupus erythematosus (SLE) nephritis as the primary renal diseases were nearly the same as those in the previous years.

Table 10 shows changes in the percentage of patients according to the primary renal disease for the prevalent dialysis patients at the end of 2006. Reflecting the trend among new patients started on dialysis each year, the number of patients with chronic glomerulonephritis as the primary renal

TABLE 9. *Changes in the percentage of new patients started on dialysis each year according to primary disease*

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Diabetic nephropathy	15.6	17.4	19.6	21.3	22.1	24.3	26.5	26.2	28.1	28.4	29.9	30.7
Chronic glomerulonephritis	60.5	58.7	56.0	54.8	54.2	49.9	47.4	46.1	44.2	42.2	41.4	40.5
Renal sclerosis	3.0	3.3	3.5	3.7	3.9	3.9	4.1	5.4	5.5	5.9	6.2	6.1
Polycystic kidney	2.8	2.8	3.1	2.9	3.2	3.1	3.1	2.9	3.0	2.7	2.6	2.5
Chronic pyelonephritis	2.4	2.2	2.1	2.0	1.8	1.8	1.5	1.5	1.7	1.6	1.1	1.4
Rapidly progressive glomerulonephritis	0.9	0.7	0.9	1.0	0.8	0.9	0.8	0.7	0.6	0.7	0.8	0.8
Systemic lupus erythematosus nephritis	1.1	1.1	1.1	1.2	0.9	0.9	1.0	1.1	1.3	1.3	1.2	1.2
Undetermined	4.4	4.0	4.8	4.2	4.1	3.8	4.0	3.3	3.7	3.7	3.3	3.9
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Diabetic nephropathy	31.9	33.1	33.9	35.7	36.2	36.6	38.1	39.1	41.0	41.3	42.0	42.9
Chronic glomerulonephritis	39.4	38.9	36.6	35.0	33.6	32.5	32.4	31.9	29.1	28.1	27.4	25.6
Renal sclerosis	6.3	6.4	6.8	6.7	7.0	7.6	7.6	7.8	8.5	8.8	9.0	9.4
Polycystic kidney	2.4	2.5	2.4	2.4	2.2	2.4	2.3	2.4	2.3	2.7	2.3	2.4
Chronic pyelonephritis	1.2	1.1	1.2	1.1	1.1	1.0	1.1	0.9	1.0	0.9	1.0	0.8
Rapidly progressive glomerulonephritis	0.8	0.8	1.1	0.9	0.9	1.0	1.0	1.1	1.2	1.1	1.1	1.2
Systemic lupus erythematosus nephritis	1.1	1.3	1.0	1.1	1.2	0.9	1.0	0.9	0.7	0.8	0.8	0.8
Undetermined	4.5	5.0	5.5	5.6	6.1	7.6	9.0	8.4	8.8	9.3	9.5	9.9

TABLE 10. *Changes in the percentage of patients at the end of each year according to primary disease*

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Diabetic nephropathy	7.4	8.4	9.4	10.5	11.7	12.8	14.0	14.9	16.4	17.1	18.2	19.2
Chronic glomerulonephritis	74.5	72.1	72.3	70.6	69.4	67.9	65.9	64.1	61.7	60.4	58.8	57.7
Renal sclerosis	1.5	1.7	1.9	2.0	2.1	2.1	2.3	2.6	2.9	3.1	3.4	3.6
Polycystic kidney	2.7	2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.3	3.3	3.2
Chronic pyelonephritis	3.1	3.3	2.6	2.4	2.4	2.3	2.2	2.2	2.1	2.0	1.9	1.8
Rapidly progressive glomerulonephritis	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Systemic lupus erythematosus nephritis	0.8	0.8	0.9	0.9	0.9	0.9	0.9	1.0	1.1	1.1	1.1	1.1
Undetermined	2.2	2.3	2.3	2.5	2.6	2.5	2.6	2.6	2.9	2.9	2.9	3.1
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Diabetic nephropathy	20.4	21.6	22.7	24.0	25.1	26.0	27.2	28.1	29.2	30.2	31.4	32.3
Chronic glomerulonephritis	56.6	55.4	54.1	52.5	51.1	49.7	49.6	48.2	46.6	45.1	43.6	42.2
Renal sclerosis	3.8	4.0	4.2	4.4	4.5	4.8	5.0	5.1	5.3	5.7	5.9	6.2
Polycystic kidney	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.4	3.3	3.4
Chronic pyelonephritis	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2	1.2
Rapidly progressive glomerulonephritis	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Systemic lupus erythematosus nephritis	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Undetermined	3.2	3.6	3.9	4.2	4.4	5.0	5.6	5.9	6.3	6.4	6.6	7.0

disease has continuously decreased year by year. Instead, the number of patients with diabetic nephropathy as the primary renal disease has continuously increased. Assuming that the dynamics of the dialysis patient population in Japan continues to show this trend, the percentage of patients with chronic glomerulonephritis as the primary renal disease and that with diabetic nephropathy will reverse; it is considered that the percentage of patients with diabetic nephropathy as the primary renal disease will become the largest. Patients with an "undetermined" primary renal disease accounted for 9.4% of all the dialysis patients and were the third largest in number following those with chronic glomerulonephritis and diabetic nephropathy. Following these three, the number of patients with nephrosclerosis as the primary renal disease was large, and it has been increasing steadily. The percentage of patients with other primary renal diseases was similar to those in the previous years.

4. Causes of death

Table 11 shows the classification of the causes of death of new patients who were started on dialysis in 2006 and who died by the end of 2006. Table 12 shows the classification of the causes of death of patients who died in 2006 in the whole dialysis patient population. Table 13 shows the changes in the percentages of the leading causes of death. The classification of the causes of death was changed on the basis of the

TABLE 11. *Classification of the causes of death of patients started on dialysis in 2006*

Cause of death	Male (%)	Female (%)	Total (%)	No information available	Total (%)
Cardiac failure	380 (21.1)	280 (25.7)	660 (22.8)	0	660 (22.8)
Cerebrovascular disease	98 (5.4)	73 (6.7)	171 (5.9)	0	171 (5.9)
Infectious disease	494 (27.4)	270 (24.8)	764 (26.4)	0	764 (26.4)
Hemorrhage	39 (2.2)	22 (2.0)	61 (2.1)	0	61 (2.1)
Malignant tumor	221 (12.3)	80 (7.3)	301 (10.4)	0	301 (10.4)
Cachexia/Uremia	45 (2.5)	44 (4.0)	89 (3.1)	0	89 (3.1)
Cardiac infarction	59 (3.3)	33 (3.0)	92 (3.2)	0	92 (3.2)
Potassium poisoning/Moribund	68 (3.8)	28 (2.6)	96 (3.3)	0	96 (3.3)
Chronic hepatitis/Cirrhosis	29 (1.6)	18 (1.7)	47 (1.6)	0	47 (1.6)
Encephalopathy	2 (0.1)	0 (0.0)	2 (0.1)	0	2 (0.1)
Suicide/Refusal of treatment	20 (1.1)	8 (0.7)	28 (1.0)	0	28 (1.0)
Intestinal obstruction	9 (0.5)	16 (1.5)	25 (0.9)	0	25 (0.9)
Lung thrombus/Pulmonary embolus	4 (0.2)	7 (0.6)	11 (0.4)	0	11 (0.4)
Death due to disaster	3 (0.2)	2 (0.2)	5 (0.2)	0	5 (0.2)
Others	207 (11.5)	123 (11.3)	330 (11.4)	0	330 (11.4)
Undetermined	125 (6.9)	85 (7.8)	210 (7.3)	0	210 (7.3)
Subtotal	1803 (100.0)	1089 (100.0)	2892 (100.0)	0	2892 (100.0)
No information available	8	9	17	0	17
Total	1811	1098	2909	0	2909

TABLE 12. *Classification of the causes of death of patients who died in 2006*

Cause of death	Male (%)	Female (%)	Total (%)	No information available	Total (%)
Cardiac failure	3 237 (23.4)	2 234 (27.4)	5 471 (24.9)	0	5 471 (24.9)
Cerebrovascular disease	1 249 (9.0)	823 (10.1)	2 072 (9.4)	1	2 073 (9.4)
Infectious disease	2 769 (20.1)	1 604 (19.7)	4 373 (19.9)	2	4 375 (19.9)
Hemorrhage	247 (1.8)	171 (2.1)	418 (1.9)	0	418 (1.9)
Malignant tumor	1 435 (10.4)	582 (7.1)	2 017 (9.2)	0	2 017 (9.2)
Cachexia/Uremia	367 (2.7)	315 (3.9)	682 (3.1)	0	682 (3.1)
Cardiac infarction	642 (4.6)	316 (3.9)	958 (4.4)	0	958 (4.4)
Potassium poisoning/Moribund	755 (5.5)	363 (4.4)	1 118 (5.1)	0	1 118 (5.1)
Chronic hepatitis/Cirrhosis	213 (1.5)	82 (1.0)	295 (1.3)	0	295 (1.3)
Encephalopathy	9 (0.1)	8 (0.1)	17 (0.1)	0	17 (0.1)
Suicide/Refusal of treatment	137 (1.0)	52 (0.6)	189 (0.9)	0	189 (0.9)
Intestinal obstruction	143 (1.0)	99 (1.2)	242 (1.1)	0	242 (1.1)
Lung thrombus/Pulmonary embolus	37 (0.3)	21 (0.3)	58 (0.3)	0	58 (0.3)
Death due to disaster	103 (0.7)	42 (0.5)	145 (0.7)	0	145 (0.7)
Others	1 273 (9.2)	817 (10.0)	2 090 (9.5)	0	2 090 (9.5)
Undetermined	1 192 (8.6)	629 (7.7)	1 821 (8.3)	0	1 821 (8.3)
Total	13 808 (100.0)	8 158 (100.0)	21 966 (100.0)	3	21 969 (100.0)
No information available	111	65	176	0	176
Total	13 919	8 223	22 142	3	22 145

ICD-10 classification starting with the survey at the end of 2003.

The causes of death of new patients started on dialysis in 2006 were infectious diseases (26.4%), cardiac failure (22.8%), malignant tumors (10.4%), cerebrovascular disease (5.9%), and hyperkalemia/sudden death (3.3%). The percentage of myocardial infarction, which has been the fifth cause of death until 2005, was 3.2% in 2006, and was the sixth cause of death in 2006. The percentage of dialysis patients who died of infectious diseases has increased continuously since 1990. This percentage was equivalent to that of dialysis patients who died of cardiac failure between 2003 and 2005; however, the percentage of dialysis patients who died of infectious diseases was markedly higher by 3% or more than the percentage of dialysis patients who died of cardiac failure. The increases in the numbers of elderly patients and diabetic patients who easily develop infectious diseases are considered to account for the largest percentage of patients who died of infectious diseases. On the basis of these findings, for new patients started on dialysis, measures against cardiac failure and infectious diseases are therefore of particular importance.

The leading cause of death among the prevalent dialysis patient population was cardiac failure, accounting for 24.9% of all patients deaths. The percentage of deaths from cardiac failure among all the patients who died decreased between 1990 and around 1996, and remained nearly constant afterwards. The second leading cause of death was infectious diseases, accounting for 19.9% of all patients deaths. The percentage of deaths from infectious diseases has tended to increase since 1990. These ten-

TABLE 13. *Changes in the primary diseases in patients started on dialysis annually*

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Cardiac failure	30.3	30.5	31.3	33.2	32.7	36.5	33.4	30.4	30.5	31.1	29.9	28.2
Infectious disease	11.0	11.5	11.5	12.0	12.0	12.2	11.7	11.6	12.1	11.3	12.2	12.6
Cerebrovascular disease	14.2	15.4	14.2	14.0	14.2	12.9	13.2	13.9	13.7	13.6	13.5	14.1
Malignant tumor	7.7	6.9	6.4	6.9	5.8	6.9	7.6	8.2	7.6	7.1	7.4	7.3
Cardiac infarction	5.3	4.8	5.3	6.1	6.0	5.4	5.3	5.8	5.8	5.8	5.7	7.1
Others	5.1	4.9	5.7	4.7	5.2	4.8	4.4	4.6	4.4	4.5	4.1	4.5
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cardiac failure	25.4	24.1	23.9	24.1	24.3	23.2	25.5	25.1	25.0	25.1	25.8	24.9
Infectious disease	13.8	14.6	14.9	15.0	16.3	16.6	16.3	15.9	18.5	18.8	19.2	19.9
Cerebrovascular disease	13.5	12.9	12.6	12.1	11.3	11.3	11.6	11.2	10.7	10.6	9.8	9.4
Malignant tumor	7.2	7.7	8.1	7.7	7.6	8.3	8.5	8.5	8.5	9.0	9.0	9.2
Cardiac infarction	7.5	7.4	8.4	7.9	7.4	7.0	7.4	7.4	6.2	5.4	5.1	4.4
Others	5.8	6.3	6.7	7.0	7.7	7.9	9.1	9.0	9.7	10.3	9.1	9.5

TABLE 14. *Changes in the annual crude mortality rate*

Year	Crude mortality rate (%)	Year	Crude mortality rate (%)
1983	9.0	1995	9.7
1984	8.9	1996	9.4
1985	9.1	1997	9.4
1986	9.0	1998	9.2
1987	8.5	1999	9.7
1988	9.2	2000	9.2
1989	7.9	2001	9.3
1990	9.6	2002	9.2
1991	8.9	2003	9.3
1992	9.7	2004	9.4
1993	9.4	2005	9.5
1994	9.5	2006	9.2

dencies were similar to those observed for the causes of death of new patients started on dialysis, which was mentioned before. The increases in the number of elderly patients, who are weak from comorbid conditions, and in the number of diabetic patients are considered to have contributed to the increase in the percentage of deaths from infections diseases.

Following the causes of death mentioned above, the percentages of patients who died of cerebrovascular disease and malignant tumors were high, 9.4% and 9.2%, respectively. The percentage of patients who died of cerebrovascular disease has tended to decrease since 1994.

The percentage of patients who died of myocardial infarction has clearly decreased since 2002, and it was 4.4% in 2006. This may indicate the good outcome of the widespread use of improved therapies for ischemic cardiac disease, including catheter intervention and coronary artery bypass grafting (CABG).

5. Annual crude mortality rate

The annual crude mortality rate (%) was calculated from the facility survey data. It is the ratio of the number of patients who died divided by the mean number of prevalent patients at the end of 2005 and 2006. The annual crude mortality rate in 2006 was 9.2%. Table 14 shows the annual crude mortality rates from 1983, which ranged between 9.2% to 9.7% from 1992. Despite the increase in the numbers of diabetic patients, who have a low life expectancy, and elderly patients, the annual crude mortality rate remains nearly constant, suggesting an improvement in the overall management of dialysis patients in Japan.

6. Cumulative survival rate of new patients started on dialysis each year

The cumulative survival rates of new patients started on dialysis from 1983 are summarized by introduction year in Table 15. The survival rates were calculated actuarially (2).

TABLE 15. *Survival rates of patients on dialysis since 1983*

Year when patients were started on dialysis	Number of patients	1-year survival rate	2-year survival rate	3-year survival rate	4-year survival rate	5-year survival rate	6-year survival rate	7-year survival rate	8-year survival rate	9-year survival rate	10-year survival rate	11-year survival rate	12-year survival rate	13-year survival rate	14-year survival rate	15-year survival rate	16-year survival rate	17-year survival rate	18-year survival rate	19-year survival rate	20-year survival rate	21-year survival rate	22-year survival rate	23-year survival rate
1983	9 920	0.819	0.748	0.683	0.634	0.590	0.557	0.525	0.486	0.457	0.426	0.397	0.373	0.349	0.330	0.309	0.290	0.274	0.257	0.243	0.228	0.215	0.201	0.191
1984	10 792	0.818	0.737	0.673	0.622	0.579	0.541	0.501	0.468	0.439	0.411	0.382	0.357	0.333	0.312	0.292	0.275	0.257	0.243	0.231	0.216	0.203	0.193	
1985	11 708	0.797	0.723	0.664	0.613	0.567	0.525	0.489	0.449	0.417	0.390	0.365	0.341	0.316	0.294	0.276	0.258	0.241	0.227	0.213	0.197	0.185		
1986	12 713	0.800	0.726	0.668	0.620	0.567	0.523	0.482	0.448	0.411	0.382	0.355	0.331	0.309	0.287	0.270	0.254	0.237	0.224	0.212	0.200			
1987	13 655	0.816	0.739	0.673	0.610	0.559	0.510	0.465	0.429	0.396	0.368	0.342	0.318	0.298	0.276	0.257	0.242	0.225	0.208	0.196				
1988	14 863	0.826	0.742	0.668	0.606	0.550	0.502	0.459	0.422	0.387	0.356	0.329	0.306	0.284	0.262	0.245	0.228	0.214	0.199					
1989	14 695	0.850	0.762	0.689	0.620	0.565	0.516	0.471	0.432	0.397	0.365	0.339	0.314	0.292	0.272	0.254	0.238	0.223						
1990	16 641	0.840	0.751	0.677	0.612	0.558	0.505	0.462	0.423	0.388	0.357	0.329	0.304	0.282	0.264	0.247	0.231							
1991	18 375	0.829	0.737	0.664	0.600	0.542	0.492	0.448	0.411	0.379	0.349	0.322	0.297	0.277	0.259	0.241								
1992	20 076	0.823	0.730	0.654	0.592	0.535	0.487	0.443	0.405	0.373	0.345	0.320	0.296	0.277	0.255									
1993	21 073	0.834	0.745	0.670	0.601	0.546	0.495	0.451	0.413	0.381	0.351	0.324	0.300	0.277										
1994	21 625	0.831	0.745	0.673	0.608	0.549	0.497	0.455	0.417	0.381	0.350	0.321	0.299											
1995	23 180	0.843	0.757	0.684	0.615	0.559	0.511	0.468	0.430	0.395	0.363	0.335												
1996	25 241	0.834	0.752	0.678	0.615	0.561	0.515	0.465	0.427	0.392	0.361													
1997	25 902	0.840	0.755	0.685	0.625	0.569	0.520	0.476	0.434	0.399														
1998	27 240	0.847	0.768	0.701	0.641	0.581	0.531	0.484	0.443															
1999	28 305	0.853	0.777	0.711	0.646	0.589	0.538	0.493																
2000	29 769	0.858	0.781	0.716	0.654	0.598	0.546																	
2001	31 614	0.858	0.780	0.713	0.649	0.597																		
2002	32 361	0.862	0.786	0.720	0.660																			
2003	33 526	0.864	0.789	0.725																				
2004	34 594	0.870	0.796																					
2005	35 530	0.867																						

TABLE 16. *Measurement frequencies of endotoxin concentration in the dialysate solution*

	Measurement frequency of endotoxin concentration										
	Every day	Every week	Every two weeks	Every month	Several times per year	Once a year	None	Subtotal	Unspecified	No information available	Total
Number of facilities (%)	15 (0.4)	85 (2.4)	164 (4.7)	689 (19.8)	1372 (39.3)	548 (15.7)	615 (17.6)	3488 (100.0)	185	312	3985

The one-year survival rate of new patients started on dialysis in 2005 was 0.867. The one-year survival rate of new patients started on dialysis has been improving since 1983, despite the aging of new patients started on dialysis and the increase in the number of diabetic patients. However, the one-year survival rate of new patients started on dialysis in 2005, which was obtained in this study, was lower than that in 2004.

The five-year and 10-year survival rates of new patients started on dialysis have been increasing slightly since the introduction year of 1992; however, the 15-year and 20-year survival rates of new patients started on dialysis tend to decrease. In the survey next year, the 15-year survival rate of new patients started on dialysis after 1992 will be calculated. It will be interesting to determine is the 15-year survival rate will also increase for the new patients started on dialysis after 1992.

II. Tabulation of data on new items surveyed

A. Current status of dialysate quality control

1. Endotoxin concentration in the dialysate. There were 3488 facilities (87.5% of 3985 facilities responded to questions in Sheet I) that answered questions regarding the measurement frequency of endotoxin concentration in the dialysate (Table 16). The endotoxin concentration in the dialysate was also determined in the same survey conducted at the end of 1999. According to this survey result (3), the number of facilities that measured endotoxin concentration in the dialysate was 1788 out of the 2908 facilities that responded to the questionnaire (61.5%). In the latest survey conducted at the end of 2006, the number of facilities that measured the concentration was 2873 out of the 3488 facilities that responded to the related questions (82.4%). The percentage of facilities that measured endotoxin concentration in the dialysate increased significantly in the past seven years. This finding indicates that the practice of measuring endotoxin concentration has spread among facilities.

The endotoxin concentration in the dialysate is measured more than once a month at 953 facilities (27.3%) and more than twice a year at 2325 facilities (66.7%). Measured endotoxin concentrations were obtained from 2746 facilities (Table 17). The target endotoxin concentration in the dialysate recommended by the Japanese Society for Dialysis Therapy in 2004 was <50 EU/L. The number of facilities that satisfied this target level of <50 EU/L was 2444 facilities (89.0%). Furthermore, the number of facilities with endotoxin concentrations <1 EU/L was 817 facilities (29.8%). When the number of facilities was divided by the total number of facilities that responded to the questionnaire on the measurement frequency of endotoxin concentration in the dialysate, the percentage of facilities with <50 EU/L was 70.1%, and that with <1 EU/L was 23.4%.

According to the results of the survey conducted at the end of 1999 (3), the number of facilities that achieved endotoxin concentrations in the dialysate of <50 EU/L was 1229 out of the 1616 facilities (76.1%) that responded to the questionnaire. These results indicate that the endotoxin concentration in the dialysate at dialysis facilities in Japan has significantly improved in the past seven years.

2. Dialysate bacteria count. Presently, the bacteria count in the dialysate has been used as an indicator of the cleanliness of the dialysate. It was pointed out that the bacteria count in the dialysate is not always in proportion to the endotoxin concentration in the dialysate; therefore, decreasing the bacteria count in

TABLE 17. *Endotoxin concentrations in the dialysate solution*

	Endotoxin concentration (EU/L) in the dialysate solution											
	<1	1–9	10–49	50–99	100–249	250–499	>500	Subtotal	Unspecified	Total	Mean	SD
Number of facilities (%)	817 (29.8)	1100 (40.1)	527 (19.2)	152 (5.5)	94 (3.4)	28 (1.0)	28 (1.0)	2746 (100.0)	1239	3985	41.07	344.10

TABLE 18. *Measurement frequencies of bacterial count in the dialysate solution*

	Measurement frequency of bacterial count in the dialysate solution										
	Every day	Every week	Every two weeks	Every month	Several times per year	Once a year	None	Subtotal	Unspecified	No information available	Total
Number of facilities	2	29	63	277	532	294	2031	3228	386	371	3985
(%)	(0.1)	(0.9)	(2.0)	(8.6)	(16.5)	(9.1)	(62.9)	(100.0)			

the dialysate as much as possible has been emphasized to improve the cleanliness of the dialysate. Under such circumstances, items related to the bacteria count of the dialysate were also added in this survey.

There were 3228 facilities (81.0% of 3985 facilities responded to questions in Sheet I) that answered questions regarding the measurement frequency of the bacteria count in the dialysate (Table 18). Out of the 3228 facilities, 1197 (37.1%) measured the bacteria count in the dialysate at least once a year. Among them, 903 (28.0%) measured the bacteria count in the dialysate more than twice yearly, and 371 (11.5%) more than once a month. Compared with the number of facilities that measured endotoxin concentration in the dialysate, the number of facilities that measured the bacteria count remained low.

The target bacteria count in the dialysate of less than 100 cfu/mL was recommended by the Japanese Society for Dialysis Therapy in 1995. The number of facilities that satisfied this target was 1017 (96.9% of 1049 facilities). According to the control standard of the dialysate, a bacteria count of <0.1 cfu/mL is specified as "ultrapure dialysate." The number of facilities that satisfied this definition was 508 (48.4%; Table 19).

In the dialysate, heterotrophic bacteria, which adapt to the oligotrophic environment, exist. In general, a medium containing high concentrations of organic components such as agar is used to cultivate common bacteria; however, heterotrophic bacteria existing in the dialysate are difficult to proliferate in a medium containing high concentrations of organic components. Therefore, the use of an oligotrophic medium, which is suitable for the detection of heterotrophic bacteria, is recommended for the cultivation of bacteria in the dialysate.

Reasoner's No. 2 agar (R2A) and tryptone glucose extract agar (TGEA) are examples of oligotrophic media. They are cultivation media suitable for the detection of bacteria in the dialysate and are frequently used. In contrast, common agar media, blood agar, and tryptic soy agar (TSA medium) contain high concentrations of organic components and are not necessarily suitable for the detection of bacteria in the dialysate.

Among the 1106 facilities that responded to the questionnaire on the medium used for bacterial cultivation of dialysate, 782 (70.7%) used the R2A or TGEA medium. In particular, the number of facilities that used R2A medium was the largest (746 facilities, 67.5%). In contrast, 222 facilities (20.1%) used common agar media, blood agar, or TSA medium, which contain high concentrations of organic components (Table 20).

TABLE 19. *Bacterial counts in the dialysate solution*

	Bacterial count in the dialysate solution (cfu/mL)								
	<0.1	0.1–0.9	1–9	10–99	>100	Subtotal	Unspecified	No information available	Total
Number of facilities	508	181	209	119	32	1049	2036	900	3985
(%)	(48.4)	(17.3)	(19.9)	(11.3)	(3.1)	(100.0)			

TABLE 20. *Media used for bacterial cultivation of the dialysate solution*

	Media used for bacterial cultivation of the dialysate solution									
	General agar medium	R2A medium	TGEA medium	Blood agar medium	TSA medium	Other media	Subtotal	Unspecified	No information available	Total
Number of facilities	170	746	36	48	4	102	1106	2023	856	3985
(%)	(15.4)	(67.5)	(3.3)	(4.3)	(0.4)	(9.2)	(100.0)			

R2A, Reasoner's No. 2 agar; TGEA, tryptone glucose extract agar; TSA, tryptic soy agar.

TABLE 21. *Installation of an endotoxin cut filter (ETCF)*

	ETCF				
	With	Without	Subtotal	Unspecified or no information available	Total
Number of facilities	2772	758	3530	455	3985
(%)	(78.5)	(21.5)	(100.0)		

3. Installation of an endotoxin cut filter. The installation of an endotoxin cut filter (ETCF) in the dialysis console was surveyed (Table 21). There were 3530 facilities (89.6% of 3985 facilities that responded to questions in Sheet I) that answered regarding the installation of ETCF. Out of the 3530 facilities, 2772 (78.5%) responded that they installed ETCF.

In this survey, the number of dialysis consoles in which ETCF is installed was also counted (Table 22). According to the results there are 95 947 dialysis consoles in total at the 3530 facilities, among which an ETCF has been installed in 51 213 consoles (53.4%).

B. Current status of renal anemia therapy

1. Hemoglobin concentration. Table 23 shows the distribution of hemoglobin concentrations in all chronic dialysis patients at the end of 2005 and 2006 (1). All patients treated by all dialysis modalities are included as the subjects in Table 23. The number of patients in 2005 was smaller than that in 2006, because in 2005 the hemoglobin concentration was surveyed only at the facilities that participated in the survey using floppy disks.

TABLE 22. *Number of dialysis consoles in which an endotoxin cut filter (ETCF) was installed*

	ETCF		
	With	Without	Total
Number of consoles	51 213	44 734	95 947
(%)	(53.4)	(46.6)	(100.0)

The mean hemoglobin concentrations in the prevalent patients at the end of 2005 and 2006 were similar, 10.23 ± 1.37 g/dL and 10.23 ± 1.33 g/dL, respectively. The only difference is that the percentage of patients with hemoglobin concentrations <8.0 g/dL decreased by 0.4%, and those with a hemoglobin concentration of ≥11.0 g/dL decreased by 0.8% in 2006, compared with those in 2005.

In April 2006 the NHI system was revised and the price of erythropoietin administered to hemodialysis patients was included in the chronic dialysis management fee. In relation to this, it is suspected that this revision may affect the renal anemia condition of chronic dialysis patients and their therapy. However, as far as the survey results are concerned, no significant change in the hemoglobin level of the chronic dialysis patients was observed.

The hemoglobin concentrations of chronic dialysis patients in terms of gender and age range are shown in Tables 24 and 25. The mean hemoglobin concentration of all the male dialysis patients was 10.33 ± 1.35 g/dL. As the age of the patients increased, the percentage of patients with hemoglobin concentrations <10 g/dL increased. On the other hand, the mean hemoglobin concentration of all the female dialysis patients was 10.06 ± 1.29 g/dL, which was slightly lower than that of the male patients. For female patients aged 15 years or older, as the age of the patients increased, the percentage of patients with low hemoglobin concentrations increased.

Table 26 shows a summary of the relationship between primary renal disease and hemoglobin concentration. The percentages of patients with hemoglobin concentrations <10 g/dL for four leading primary renal diseases were 38.1% (chronic glomerulonephritis), 41.3% (diabetic nephropathy), 42.4% (nephrosclerosis), and 34.6% (polycystic kidney disease).

2. Erythropoietin dose. The distributions of patients according to erythropoietin dose in 2005 and

TABLE 23. *Hemoglobin concentration in 2005 and 2006 (entire dialysis patient population)*

	Hemoglobin concentration (g/dL)										
	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	Unspecified	Total	Mean	SD
Number of patients in 2005	6564	12 707	33 785	45 231	26 608	11 298	136 193	31 919	168 112	10.23	1.37
(%)	(4.8)	(9.3)	(24.8)	(33.2)	(19.5)	(8.3)	(100.0)				
Number of patients in 2006	9529	21 622	54 878	71 654	40 619	17 876	216 178	33 779	249 957	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.1)	(18.8)	(8.3)	(100.0)				

TABLE 24. *Hemoglobin concentrations in male dialysis patients*

	Hemoglobin concentration (g/dL)										
Age (years)	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	No information available	Total	Mean	SD
<15	2	4	8	3	3	6	26	21	47	10.53	2.63
(%)	(7.7)	(15.4)	(30.8)	(11.5)	(11.5)	(23.1)	(100.0)				
15–29	38	71	187	356	222	99	973	178	1 151	10.45	1.31
(%)	(3.9)	(7.3)	(19.2)	(36.6)	(22.8)	(10.2)	(100.0)				
30–44	236	595	1 777	3 141	2 162	1 278	9 189	1 408	10 597	10.61	1.35
(%)	(2.6)	(6.5)	(19.3)	(34.2)	(23.5)	(13.9)	(100.0)				
45–59	1260	2 868	8 222	12 335	8 435	4 540	37 660	5 715	43 375	10.48	1.37
(%)	(3.3)	(7.6)	(21.8)	(32.8)	(22.4)	(12.1)	(100.0)				
60–74	2429	5 279	14 095	19 394	11 490	5 142	57 829	8 921	66 750	10.29	1.34
(%)	(4.2)	(9.1)	(24.4)	(33.5)	(19.9)	(8.9)	(100.0)				
75–89	1383	2 966	6 838	8 466	4 432	1 678	25 763	4 120	29 883	10.10	1.31
(%)	(5.4)	(11.5)	(26.5)	(32.9)	(17.2)	(6.5)	(100.0)				
≥90	60	108	263	268	138	44	881	165	1 046	9.93	1.27
(%)	(6.8)	(12.3)	(29.9)	(30.4)	(15.7)	(5.0)	(100.0)				
Subtotal	5408	11 891	31 390	43 963	26 882	12 787	132 321	20 528	152 849	10.33	1.35
(%)	(4.1)	(9.0)	(23.7)	(33.2)	(20.3)	(9.7)	(100.0)				
No information available	0	1	4	4	2	0	11	28	39	9.91	1.00
(%)	(0.0)	(9.1)	(36.4)	(36.4)	(18.2)	(0.0)	(100.0)				
Total	5 408	11 892	31 394	43 967	26 884	12 787	132 332	20 556	152 888	10.33	1.35
(%)	(4.1)	(9.0)	(23.7)	(33.2)	(20.3)	(9.7)	(100.0)				
Mean	66.18	65.84	64.88	63.60	62.39	60.70	63.68	63.82	63.70		
SD	12.30	12.30	12.30	12.52	12.49	12.42	12.51	12.84	12.56		

2006 are shown in Table 27 (1). The survey on erythropoietin dose at the end of 2005 was carried out only at the facilities that participated in the survey using floppy disks, similarly to the case of hemoglobin concentration. The percentage of dialysis patients administered erythropoietin at a dose of ≥6000 U/week was 35.6% in 2005 and decreased to 26.3% in 2006. On the other hand, the percentage of dialysis patients administered erythropoietin at a dose of <6000 U/week (including those who were not administered erythropoietin) increased in 2006.

In the latest survey conducted at the end of 2006, data on specific erythropoietin doses were not collected. In the questionnaire used in the latest survey,

TABLE 25. *Hemoglobin concentrations in female dialysis patients*

	Hemoglobin concentration (g/dL)										
Age (years)	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	No information available	Total	Mean	SD
<15	1	3	0	7	6	5	22	21	43	10.71	1.69
(%)	(4.5)	(13.6)	(0.0)	(31.8)	(27.3)	(22.7)	(100.0)				
15–29	23	55	132	196	93	41	540	98	638	10.20	1.29
(%)	(4.3)	(10.2)	(24.4)	(36.3)	(17.2)	(7.6)	(100.0)				
30–44	201	475	1 167	1 625	966	348	4 782	846	5 628	10.23	1.28
(%)	(4.2)	(9.9)	(24.4)	(34.0)	(20.2)	(7.3)	(100.0)				
45–59	909	2170	5 911	7 679	3 622	1359	21 650	3 348	24 998	10.14	1.26
(%)	(4.2)	(10.0)	(27.3)	(35.5)	(16.7)	(6.3)	(100.0)				
60–74	1661	4110	9 870	11 340	5 662	2076	34 719	5 323	40 042	10.07	1.28
(%)	(4.8)	(11.8)	(28.4)	(32.7)	(16.3)	(6.0)	(100.0)				
75–89	1250	2746	6 061	6 515	3 223	1203	20 998	3 314	24 312	9.99	1.32
(%)	(6.0)	(13.1)	(28.9)	(31.0)	(15.3)	(5.7)	(100.0)				
≥90	72	164	337	317	160	56	1 106	211	1 317	9.90	1.29
(%)	(6.5)	(14.8)	(30.5)	(28.7)	(14.5)	(5.1)	(100.0)				
Subtotal	4117	9723	23 478	27 679	13 732	5088	83 817	13 161	96 978	10.08	1.29
(%)	(4.9)	(11.6)	(28.0)	(33.0)	(16.4)	(6.1)	(100.0)				
No information available	0	1	1	3	0	0	5	20	25	10.00	0.90
(%)	(0.0)	(20.0)	(20.0)	(60.0)	(0.0)	(0.0)	(100.0)				
Total	4117	9724	23 479	27 682	13 732	5088	83 822	13 181	97 003	10.08	1.29
(%)	(4.9)	(11.6)	(28.0)	(33.0)	(16.4)	(6.1)	(100.0)				
Mean	67.23	66.84	66.00	64.85	64.66	64.61	65.48	65.24	65.44		
SD	13.01	12.80	12.65	12.86	13.14	13.29	12.90	13.50	12.98		

TABLE 26. *Hemoglobin concentrations according to primary disease (entire dialysis patient population)*

	Hemoglobin concentration (g/dL)										
Primary disease	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	Not available	Total	Mean	SD
Chronic glomerulonephritis	3577	8 678	22 672	30 856	17 855	7 933	91 571	13 670	105 241	10.28	1.32
(%)	(3.9)	(9.5)	(24.8)	(33.7)	(19.5)	(8.7)	(100.0)				
Chronic pyelonephritis	118	259	663	868	472	215	2 595	449	3 044	10.22	1.31
(%)	(4.5)	(10.0)	(25.5)	(33.4)	(18.2)	(8.3)	(100.0)				
Rapidly progressive glomerulonephritis	63	137	350	455	234	94	1 333	267	1 600	10.16	1.25
(%)	(4.7)	(10.3)	(26.3)	(34.1)	(17.6)	(7.1)	(100.0)				
Nephropathy of pregnancy/pregnancy toxemia	68	175	408	534	253	100	1 538	200	1 738	10.13	1.25
(%)	(4.4)	(11.4)	(26.5)	(34.7)	(16.4)	(6.5)	(100.0)				
Other nephritides that cannot be classified	58	80	224	314	193	89	958	154	1 112	10.27	1.37
(%)	(6.1)	(8.4)	(23.4)	(32.8)	(20.1)	(9.3)	(100.0)				
Polycystic kidney	217	625	1 745	2 545	1 494	842	7 468	965	8 433	10.44	1.36
(%)	(2.9)	(8.4)	(23.4)	(34.1)	(20.0)	(11.3)	(100.0)				
Renal sclerosis	621	1 398	3 653	4 460	2 345	886	13 363	1 989	15 352	10.15	1.28
(%)	(4.6)	(10.5)	(27.3)	(33.4)	(17.5)	(6.6)	(100.0)				
Malignant hypertension	80	163	352	531	271	154	1 551	311	1 862	10.25	1.39
(%)	(5.2)	(10.5)	(22.7)	(34.2)	(17.5)	(9.9)	(100.0)				
Diabetic nephropathy	3374	7 365	18 114	22 612	12 818	5 554	69 837	10 706	80 543	10.18	1.35
(%)	(4.8)	(10.5)	(25.9)	(32.4)	(18.4)	(8.0)	(100.0)				
Systemic lupus erythematosus nephritis	85	201	523	573	324	121	1 827	298	2 125	10.11	1.28
(%)	(4.7)	(11.0)	(28.6)	(31.4)	(17.7)	(6.6)	(100.0)				
Amyloidal kidney	19	51	109	120	61	37	397	81	478	10.12	1.38
(%)	(4.8)	(12.8)	(27.5)	(30.2)	(15.4)	(9.3)	(100.0)				
Gouty kidney	45	93	270	341	222	108	1 079	141	1 220	10.34	1.39
(%)	(4.2)	(8.6)	(25.0)	(31.6)	(20.6)	(10.0)	(100.0)				
Renal failure due to congenital abnormality of metabolism	14	15	42	69	44	26	210	40	250	10.39	1.53
(%)	(6.7)	(7.1)	(20.0)	(32.9)	(21.0)	(12.4)	(100.0)				
Kidney and urinary tract tuberculosis	14	31	93	123	48	30	339	57	396	10.23	1.34
(%)	(4.1)	(9.1)	(27.4)	(36.3)	(14.2)	(8.8)	(100.0)				
Kidney and urinary tract stone	26	64	119	139	84	30	462	72	534	10.08	1.32
(%)	(5.6)	(13.9)	(25.8)	(30.1)	(18.2)	(6.5)	(100.0)				
Kidney and urinary tract tumor	35	57	139	167	81	26	505	79	584	9.97	1.33
(%)	(6.9)	(11.3)	(27.5)	(33.1)	(16.0)	(5.1)	(100.0)				
Obstructive urinary tract disease	30	58	148	189	103	51	579	94	673	10.20	1.32
(%)	(5.2)	(10.0)	(25.6)	(32.6)	(17.8)	(8.8)	(100.0)				
Myeloma	28	34	30	37	21	13	163	53	216	9.58	1.64
(%)	(17.2)	(20.9)	(18.4)	(22.7)	(12.9)	(8.0)	(100.0)				
Hypoplastic kidney	18	34	99	173	94	43	461	60	521	10.35	1.26
(%)	(3.9)	(7.4)	(21.5)	(37.5)	(20.4)	(9.3)	(100.0)				
Undetermined	724	1 529	3 753	4 799	2 606	1 061	14 472	3 000	17 472	10.17	1.34
(%)	(5.0)	(10.6)	(25.9)	(33.2)	(18.0)	(7.3)	(100.0)				
Reintroduction after transplantation	75	124	375	509	289	126	1 498	253	1 751	10.25	1.34
(%)	(5.0)	(8.3)	(25.0)	(34.0)	(19.3)	(8.4)	(100.0)				
Others	217	411	913	1 150	664	317	3 672	658	4 330	10.16	1.40
(%)	(5.9)	(11.2)	(24.9)	(31.3)	(18.1)	(8.6)	(100.0)				
Subtotal	9506	21 582	54 794	71 564	40 576	17 856	215 878	33 597	249 475	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.2)	(18.8)	(8.3)	(100.0)				
Not available	23	40	84	90	43	20	300	182	482	9.93	1.47
(%)	(7.7)	(13.3)	(28.0)	(30.0)	(14.3)	(6.7)	(100.0)				
Total	9529	21 622	54 878	71 654	40 619	17 876	216 178	33 779	249 957	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.1)	(18.8)	(8.3)	(100.0)				

TABLE 27. *Doses of erythropoietin in 2005 and 2006 (entire dialysis patient population)*

	Doses of erythropoietin (U/week)										
	Not used	1–1499	1500–2999	3000–4499	4500–5999	6000–8999	≥9000	Subtotal	Unspecified	Not available	Total
Number of patients in 2005	19 592	3982	18 475	19 349	25 496	19 669	30 265	136 828	345	30 939	168 112
(%)	(14.3)	(2.9)	(13.5)	(14.1)	(18.6)	(14.4)	(22.1)	(100.0)			
Number of patients in 2006	34 359	8166	36 006	32 896	43 380	24 141	31 222	210 170	151	39 636	249 957
(%)	(16.3)	(3.9)	(17.1)	(15.7)	(20.6)	(11.5)	(14.9)	(100.0)			

the erythropoietin doses were classified as shown in Table 27, and the respondents selected one of the ranges as the suitable dose for the patient. Therefore, it is not possible to simply compare the mean erythropoietin dose in 2005 and 2006; however, the results suggest that the erythropoietin dose generally decreased from the end of 2005 to the end of 2006.

3. Hemoglobin concentration and iron metabolism related indices. Table 28 shows a summary of the mean serum iron concentrations with respect to hemoglobin concentration range in all the chronic dialysis patients in 2005 and 2006. Table 29 shows a summary of the mean transferrin saturation levels with respect to hemoglobin concentration range in all the chronic dialysis patients in 2005 and 2006. In 2005 and 2006 the serum iron concentration and transferrin saturation level increased with hemoglobin concentration; however, the increase in transferrin saturation level with hemoglobin concentration was slight. For all hemoglobin concentration ranges, the serum iron concentration and transferrin saturation level in 2006 were higher than those in 2005.

Table 30 shows a summary of the mean serum ferritin concentration with respect to hemoglobin concentration range for the prevalent patients in 2005 and 2006. In all hemoglobin concentration ranges, the serum ferritin concentration in 2006 was markedly higher than that in 2005. In addition, the serum ferritin concentration of the group of patients with hemoglobin concentration of 10–11 g/dL was the lowest; the serum ferritin concentration was higher

TABLE 28. *Relationship between hemoglobin concentration and serum iron concentration (comparison between entire dialysis patient populations in 2005 and that in 2006)*

	Hemoglobin concentration (g/dL)						
	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Unspecified
Serum iron concentration in 2005 (μg/dL)	54.77	54.50	59.39	63.43	66.71	69.06	63.43
Serum iron concentration in 2006 (μg/dL)	56.85	58.70	62.71	65.76	67.70	70.24	64.05

TABLE 29. *Relationship between hemoglobin concentration and iron saturation level (TSAT) (comparison between entire dialysis patient populations in 2005 and that in 2006)*

	Hemoglobin concentration (g/dL)						
	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Unspecified
Iron saturation level in 2005 (%)	25.48	24.06	25.32	26.65	28.02	28.86	27.74
Iron saturation level in 2006 (%)	27.68	27.00	27.92	28.68	29.03	29.13	27.16

TABLE 30. *Hemoglobin and serum ferritin concentrations (comparison between entire dialysis patient population in 2005 and that in 2006)*

	Hemoglobin concentration (g/dL)						
	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Unspecified
Serum ferritin concentration in 2005 (ng/mL)	278.54	219.70	181.18	174.70	190.13	211.44	191.51
Serum ferritin concentration in 2006 (ng/mL)	368.56	270.72	239.80	223.31	227.74	231.22	246.50

TABLE 31. *Doses of erythropoietin and hemoglobin concentrations (comparison between entire dialysis patient population in 2005 and that in 2006)*

	Dose of erythropoietin (U/week)							
	Not used	1–1499	1500–2999	3000–4499	4500–5999	6000–8999	≥9000	Unspecified
Hemoglobin concentration in 2005 (g/dL)	11.09	10.64	10.55	10.35	10.25	10.00	9.50	10.57
Hemoglobin concentration in 2006 (g/dL)	11.17	10.63	10.44	10.25	10.08	9.88	9.36	9.91

when the hemoglobin concentration was <10 g/dL or >11 g/dL. On the other hand, in 2006 the serum ferritin concentration generally increased compared with that in the previous year; the increase in the serum ferritin concentration in the group of patients with a hemoglobin concentration of 11 g/dL or higher was not observed. That is, in the group of patients with hemoglobin concentrations <10 g/dL, the serum ferritin concentration decreased with increasing hemoglobin concentration, and the serum ferritin concentration remained nearly constant at approximately 225 ng/mL for those with a hemoglobin concentration of ≥11 g/dL.

4. Erythropoietin dose and iron metabolism related indices. Table 31 shows a summary of mean hemoglobin concentrations with respect to the erythropoietin dose range for the prevalent patients in 2005 and 2006 (1). In 2005 and 2006, the mean hemoglobin concentration tended to decrease as the erythropoietin dose increased. There was no significant difference in this tendency of the results between 2005 and 2006.

Tables 32, 33, and 34 show the summaries of mean serum iron concentrations, mean total iron binding capacities, and transferrin saturation levels, respectively, with respect to the erythropoietin dose range for all the chronic dialysis patients in 2005 and 2006 (1). In 2005 and 2006 the mean serum iron concentration and transferrin saturation level tended to decrease as the erythropoietin dose increased. There was no significant difference in these tendencies of the results between 2005 and 2006.

Table 35 shows a summary of mean serum ferritin concentrations with respect to the erythropoietin dose range for the prevalent patients in 2005 and 2006 (1). In any erythropoietin dose range (including those not used), the mean serum ferritin concentration in 2006 was higher than that in 2005. In 2005 and

TABLE 32. *Doses of erythropoietin and serum iron concentrations (comparison between entire dialysis patient population in 2005 and that in 2006)*

	Dose of erythropoietin (U/week)							
	Not used	1–1499	1500–2999	3000–4499	4500–5999	6000–8999	≥9000	Unspecified
Serum iron concentration in 2005 (μg/dL)	64.66	69.75	69.20	67.11	61.52	61.25	53.53	65.50
Serum iron concentration in 2006 (μg/dL)	66.97	72.87	70.65	68.16	62.02	61.79	54.76	64.30

TABLE 33. *Doses of erythropoietin and total iron binding capacities (comparison between entire dialysis patient population in 2005 and that in 2006)*

	Dose of erythropoietin (U/week)							
	Not used	1–1499	1500–2999	3000–4499	4500–5999	6000–8999	≥9000	Unspecified
Total iron binding capacity in 2005 (μg/dL)	271.11	252.15	245.81	242.49	243.21	240.46	238.65	177.56
Total iron binding capacity in 2006 (μg/dL)	265.38	240.97	235.88	232.86	232.00	228.84	223.74	237.80

TABLE 34. *Doses of erythropoietin and iron saturation levels (comparison between entire dialysis patient population in 2005 and that in 2006)*

	Dose of erythropoietin (U/week)							
	Not used	1–1499	1500–2999	3000–4499	4500–5999	6000–8999	≥9000	Unspecified
Iron saturation level in 2005 (%)	25.53	28.82	29.17	28.53	26.44	26.66	23.59	36.58
Iron saturation level in 2006 (%)	26.65	31.01	30.85	30.18	27.78	28.01	25.91	28.60

TABLE 35. *Doses of erythropoietin and serum ferritin concentrations (comparison between entire dialysis patient population in 2005 and that in 2006)*

	Dose of erythropoietin (U/week)							
	Not used	1–1499	1500–2999	3000–4499	4500–5999	6000–8999	≥9000	Unspecified
Serum ferritin concentration in 2005 (ng/mL)	144.64	194.98	202.33	203.65	180.32	190.48	210.12	173.40
Serum ferritin concentration in 2006 (ng/mL)	175.26	239.30	257.05	249.07	232.78	248.43	279.71	196.76

2006, the serum ferritin concentration of the patients not administered erythropoietin was lower than that of the patients administered erythropoietin.

Table 36 shows a summary of the distribution of erythropoietin dose with respect to the hemoglobin concentration range. The subjects were the prevalent patients in 2006. The patients with lower hemoglobin concentrations were administered higher erythropoietin doses. This finding agrees with the tendency of the mean hemoglobin concentration with respect to the erythropoietin dose range. In some patients, erythropoietin was not administered although their hemoglobin concentration was low (<9.0 g/dL), or a high erythropoietin dose was administered although their hemoglobin concentration was high (≥12.0 g/dL).

Table 37 shows a summary of the distribution of erythropoietin dose with respect to the iron saturation level range. The subjects were the prevalent patients in 2006. The percentage of patients administered erythropoietin at a dose of ≥6000 U/week in the patient group whose iron saturation level was ≥20% was lower than that in the patient group whose iron saturation level was <20%. Furthermore, the percentage of patients not administered erythropoietin and that of patients administered erythropoietin at a high dose of ≥9000 U/week were higher in the group whose transferrin saturation level was <20% than in the group whose transferrin saturation level was ≥20%.

Table 38 shows a summary of the distribution of erythropoietin dose with respect to the serum ferritin concentration range. The subjects were the prevalent patients in 2006. The number of patients not administered erythropoietin was high in the group with a serum ferritin concentration <50 ng/mL. Moreover, there was no significant difference in erythropoietin dose distribution when the serum ferritin concentration of the patients increased; rather, the number of patients administered erythropoietin at a high dose tended to increase. In particular, in the group with a serum ferritin concentration of ≥600 ng/mL, the percentage of patients administered erythropoietin at a dose of ≥9000 U/week was high.

TABLE 36. *Hemoglobin concentrations and doses of erythropoietin (entire dialysis patient population)*

Dose of erythropoietin (U/week)	Hemoglobin concentration (g/dL)										
	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	Not available	Total	Mean	SD
Not used	467	1 146	4 253	9 316	9 606	8 976	33 764	595	34 359	11.17	1.44
(%)	(1.4)	(3.4)	(12.6)	(27.6)	(28.5)	(26.6)	(100.0)				
1–1499	93	313	1 565	3 103	2 110	843	8 027	139	8 166	10.63	1.11
(%)	(1.2)	(3.9)	(19.5)	(38.7)	(26.3)	(10.5)	(100.0)				
1500–2999	482	1 968	8 424	13 829	8 233	2 538	35 474	532	36 006	10.44	1.08
(%)	(1.4)	(5.5)	(23.7)	(39.0)	(23.2)	(7.2)	(100.0)				
3000–4499	747	2 607	8 824	12 303	6 445	1 600	32 526	370	32 896	10.25	1.10
(%)	(2.3)	(8.0)	(27.1)	(37.8)	(19.8)	(4.9)	(100.0)				
4500–5999	1342	4 492	12 865	15 441	6 934	1 645	42 719	661	43 380	10.08	1.10
(%)	(3.1)	(10.5)	(30.1)	(36.1)	(16.2)	(3.9)	(100.0)				
6000–8999	1479	3 253	7 224	7 646	3 336	847	23 785	356	24 141	9.88	1.24
(%)	(6.2)	(13.7)	(30.4)	(32.1)	(14.0)	(3.6)	(100.0)				
≥9000	4403	6 711	9 307	7 087	2 411	695	30 614	608	31 222	9.36	1.35
(%)	(14.4)	(21.9)	(30.4)	(23.1)	(7.9)	(2.3)	(100.0)				
Subtotal	9013	20 490	52 462	68 725	39 075	17 144	206 909	3 261	210 170	10.24	1.33
(%)	(4.4)	(9.9)	(25.4)	(33.2)	(18.9)	(8.3)	(100.0)				
Unspecified	13	18	35	30	26	7	129	22	151	9.91	1.41
(%)	(10.1)	(14.0)	(27.1)	(23.3)	(20.2)	(5.4)	(100.0)				
No information available	503	1 114	2 381	2 899	1 518	725	9 140	30 496	39 636	10.11	1.39
(%)	(5.5)	(12.2)	(26.1)	(31.7)	(16.6)	(7.9)	(100.0)				
Total	9529	21 622	54 878	71 654	40 619	17 876	216 178	33 779	249 957	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.1)	(18.8)	(8.3)	(100.0)				

TABLE 37. *Iron saturation levels and doses of erythropoietin (entire dialysis patient population)*

Dose of erythropoietin (U/week)	Iron saturation level (%)										
	<10	10–19	20–29	30–39	40–49	≥50	Subtotal	No information available	Total	Mean	SD
Not used	1829	6 052	6 664	4 012	1 729	1397	21 683	12 676	34 359	26.65	15.09
(%)	(8.4)	(27.9)	(30.7)	(18.5)	(8.0)	(6.4)	(100.0)				
1499	134	964	1 724	1 357	577	459	5 215	2 951	8 166	31.01	14.95
(%)	(2.6)	(18.5)	(33.1)	(26.0)	(11.1)	(8.8)	(100.0)				
1500–2999	493	4 289	8 274	5 933	2 577	2041	23 607	12 399	36 006	30.85	14.40
(%)	(2.1)	(18.2)	(35.0)	(25.1)	(10.9)	(8.6)	(100.0)				
3000–4499	435	4 113	7 679	5 358	2 113	1549	21 247	11 649	32 896	30.18	14.13
(%)	(2.0)	(19.4)	(36.1)	(25.2)	(9.9)	(7.3)	(100.0)				
4500–5999	962	7 303	10 738	5 800	2 201	1741	28 745	14 635	43 380	27.78	13.75
(%)	(3.3)	(25.4)	(37.4)	(20.2)	(7.7)	(6.1)	(100.0)				
6000–8999	507	3 921	5 687	3 158	1 194	1022	15 489	8 652	24 141	28.01	14.12
(%)	(3.3)	(25.3)	(36.7)	(20.4)	(7.7)	(6.6)	(100.0)				
≥9000	1395	6 650	6 418	3 014	1 252	1297	20 026	11 196	31 222	25.91	15.43
(%)	(7.0)	(33.2)	(32.0)	(15.1)	(6.3)	(6.5)	(100.0)				
Subtotal	5755	33 292	47 184	28 632	11 643	9506	136 012	74 158	210 170	28.38	14.60
(%)	(4.2)	(24.5)	(34.7)	(21.1)	(8.6)	(7.0)	(100.0)				
Unspecified	1	18	14	18	6	3	60	91	151	28.60	12.56
(%)	(1.7)	(30.0)	(23.3)	(30.0)	(10.0)	(5.0)	(100.0)				
No information available	202	1 062	1 488	905	398	323	4 378	35 258	39 636	28.63	14.85
(%)	(4.6)	(24.3)	(34.0)	(20.7)	(9.1)	(7.4)	(100.0)				
Total	5958	34 372	48 686	29 555	12 047	9832	140 450	109 507	249 957	28.39	14.60
(%)	(4.2)	(24.5)	(34.7)	(21.0)	(8.6)	(7.0)	(100.0)				

5. Hemoglobin concentration and vascular complications. The relationships of hemoglobin concentration with histories of brain infarction (Table 39), brain hemorrhage (Table 40), and myocardial infarction (Table 41) are summarized. There was no significant difference in the distribution of hemoglobin concentration between patients with and without such histories.

TABLE 38. *Serum ferritin concentrations and doses of erythropoietin (entire dialysis patient population)*

Dose of erythropoietin (U/week)	Serum ferritin concentration (ng/mL)												
	<50	50–99	100–199	200–399	400–599	600–799	800–999	≥1000	Subtotal	No information available	Total	Mean	SD
Not used	11 445	4 909	5 061	4 165	1 441	565	403	598	28 587	5 772	34 359	175.26	336.75
(%)	(40.0)	(17.2)	(17.7)	(14.6)	(5.0)	(2.0)	(1.4)	(2.1)	(100.0)				
1–1499	1 455	1 112	1 659	1 612	573	203	141	182	6 937	1 229	8 166	239.30	340.46
(%)	(21.0)	(16.0)	(23.9)	(23.2)	(8.3)	(2.9)	(2.0)	(2.6)	(100.0)				
1500–2999	5 441	5 051	7 631	7 389	2 738	1085	680	932	30 947	5 059	36 006	257.05	375.17
(%)	(17.6)	(16.3)	(24.7)	(23.9)	(8.8)	(3.5)	(2.2)	(3.0)	(100.0)				
3000–4499	5 044	4 771	7 203	6 561	2 221	919	567	828	28 114	4 782	32 896	249.07	377.31
(%)	(17.9)	(17.0)	(25.6)	(23.3)	(7.9)	(3.3)	(2.0)	(2.9)	(100.0)				
4500–5999	7 984	6 531	9 223	8 237	2 815	1105	679	954	37 528	5 852	43 380	232.78	360.59
(%)	(21.3)	(17.4)	(24.6)	(21.9)	(7.5)	(2.9)	(1.8)	(2.5)	(100.0)				
6000–8999	3 932	3 459	5 253	4 722	1 640	711	420	582	20 719	3 422	24 141	248.43	386.93
(%)	(19.0)	(16.7)	(25.4)	(22.8)	(7.9)	(3.4)	(2.0)	(2.8)	(100.0)				
≥9000	5 481	4 158	6 099	5 756	2 226	1132	629	1140	26 621	4 601	31 222	279.71	451.50
(%)	(20.6)	(15.6)	(22.9)	(21.6)	(8.4)	(4.3)	(2.4)	(4.3)	(100.0)				
Subtotal	40 782	29 991	42 129	38 442	13 654	5720	3519	5216	179 453	30 717	210 170	239.38	380.55
(%)	(22.7)	(16.7)	(23.5)	(21.4)	(7.6)	(3.2)	(2.0)	(2.9)	(100.0)				
Unspecified	21	15	25	23	9	1	1	1	96	55	151	196.76	241.38
(%)	(21.9)	(15.6)	(26.0)	(24.0)	(9.4)	(1.0)	(1.0)	(1.0)	(100.0)				
No information available	1 516	1 102	1 469	1 260	382	189	102	222	6 242	33 394	39 636	246.21	456.43
(%)	(24.3)	(17.7)	(23.5)	(20.2)	(6.1)	(3.0)	(1.6)	(3.6)	(100.0)				
Total	42 319	31 108	43 623	39 725	14 045	5910	3622	5439	185 791	64 166	249 957	239.59	383.29
(%)	(22.8)	(16.7)	(23.5)	(21.4)	(7.6)	(3.2)	(1.9)	(2.9)	(100.0)				

TABLE 39. *Hemoglobin concentrations and history of brain infarction (entire dialysis patient population)*

	Hemoglobin concentration (g/dL)										
History of brain infarction	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	No information available	Total	Mean	SD
Without history	6916	15 992	41 188	54 524	31 406	13 854	163 880	3 071	166 951	10.25	1.33
(%)	(4.2)	(9.8)	(25.1)	(33.3)	(19.2)	(8.5)	(100.0)				
With history	1166	2 428	5 424	6 695	3 784	1 664	21 161	389	21 550	10.14	1.38
(%)	(5.5)	(11.5)	(25.6)	(31.6)	(17.9)	(7.9)	(100.0)				
Under acute-phase treatment	6	16	17	30	16	11	96	6	102	10.12	1.64
(%)	(6.3)	(16.7)	(17.7)	(31.3)	(16.7)	(11.5)	(100.0)				
Lacunar infarction	112	311	765	934	535	225	2 882	24	2 906	10.21	1.29
(%)	(3.9)	(10.8)	(26.5)	(32.4)	(18.6)	(7.8)	(100.0)				
Subtotal	8200	18 747	47 394	62 183	35 741	15 754	188 019	3 490	191 509	10.24	1.33
(%)	(4.4)	(10.0)	(25.2)	(33.1)	(19.0)	(8.4)	(100.0)				
Unspecified	152	284	684	767	311	140	2 338	91	2 429	9.98	1.33
(%)	(6.5)	(12.1)	(29.3)	(32.8)	(13.3)	(6.0)	(100.0)				
No information available	1177	2 591	6 800	8 704	4 567	1 982	25 821	30 198	56 019	10.19	1.32
(%)	(4.6)	(10.0)	(26.3)	(33.7)	(17.7)	(7.7)	(100.0)				
Total	9529	21 622	54 878	71 654	40 619	17 876	216 178	33 779	249 957	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.1)	(18.8)	(8.3)	(100.0)				

TABLE 40. *Hemoglobin concentrations and history of brain hemorrhage (entire dialysis patient population)*

	Hemoglobin concentration (g/dL)										
History of brain hemorrhage	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	No information available	Total	Mean	SD
Without history	7829	17 978	45 686	60 047	34 558	15 153	181 251	3 328	184 579	10.24	1.33
(%)	(4.3)	(9.9)	(25.2)	(33.1)	(19.1)	(8.4)	(100.0)				
With history	385	790	1 784	2 289	1 294	655	7 197	130	7 327	10.21	1.42
(%)	(5.3)	(11.0)	(24.8)	(31.8)	(18.0)	(9.1)	(100.0)				
Under acute-phase treatment	13	12	18	23	9	4	79	5	84	9.58	1.70
(%)	(16.5)	(15.2)	(22.8)	(29.1)	(11.4)	(5.1)	(100.0)				
Subtotal	8227	18 780	47 488	62 359	35 861	15 812	188 527	3 463	191 990	10.24	1.33
(%)	(4.4)	(10.0)	(25.2)	(33.1)	(19.0)	(8.4)	(100.0)				
Unspecified	124	266	644	698	243	106	2 081	108	2 189	9.92	1.28
(%)	(6.0)	(12.8)	(30.9)	(33.5)	(11.7)	(5.1)	(100.0)				
No information available	1178	2 576	6 746	8 597	4 515	1 958	25 570	30 208	55 778	10.19	1.33
(%)	(4.6)	(10.1)	(26.4)	(33.6)	(17.7)	(7.7)	(100.0)				
Total	9529	21 622	54 878	71 654	40 619	17 876	216 178	33 779	249 957	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.1)	(18.8)	(8.3)	(100.0)				

TABLE 41. *Hemoglobin concentrations and history of cardiac infarction (entire dialysis patient population)*

	Hemoglobin concentration (g/dL)										
History of cardiac infarction	<8.0	8.0–8.9	9.0–9.9	10.0–10.9	11.0–11.9	≥12.0	Subtotal	No information available	Total	Mean	SD
Without history	7681	17 571	44 486	58 620	33 514	14 644	176 516	3 244	179 760	10.24	1.33
(%)	(4.4)	(10.0)	(25.2)	(33.2)	(19.0)	(8.3)	(100.0)				
With history	523	1 200	2 956	3 663	2 283	1 127	11 752	245	11 997	10.27	1.39
(%)	(4.5)	(10.2)	(25.2)	(31.2)	(19.4)	(9.6)	(100.0)				
Under acute-phase treatment	10	20	44	34	24	8	140	2	142	9.98	1.31
(%)	(7.1)	(14.3)	(31.4)	(24.3)	(17.1)	(5.7)	(100.0)				
Subtotal	8214	18 791	47 486	62 317	35 821	15 779	188 408	3 491	191 899	10.24	1.33
(%)	(4.4)	(10.0)	(25.2)	(33.1)	(19.0)	(8.4)	(100.0)				
Unspecified	122	264	628	689	285	115	2 103	102	2 205	9.98	1.31
(%)	(5.8)	(12.6)	(29.9)	(32.8)	(13.6)	(5.5)	(100.0)				
No information available	1193	2 567	6 764	8 648	4 513	1 982	25 667	30 186	55 853	10.19	1.33
(%)	(4.6)	(10.0)	(26.4)	(33.7)	(17.6)	(7.7)	(100.0)				
Total	9529	21 622	54 878	71 654	40 619	17 876	216 178	33 779	249 957	10.23	1.33
(%)	(4.4)	(10.0)	(25.4)	(33.1)	(18.8)	(8.3)	(100.0)				

C. Clinical condition of patients at introduction onto dialysis

In the latest survey conducted at the end of 2006, the clinical data and condition of the patients at the start of dialysis treatment were examined for the first time in 17 years. In this report, as part of the surveyed results, data on the treatment method of end-stage renal disease, renal function, as well as the symptoms of tumors of the patients at the start of dialysis were collected and the results are shown here. A detailed analysis of the pathological condition of the patients at introduction onto dialysis and their short-term prognosis (life expectancy of the patients within one year and prognosis in terms of various complications) will be performed in the survey at the end of 2007 or later.

1. Dialysis modalities at the end of year for newly introduced patients. The subjects of the survey on pathological conditions were the patients who had newly started dialysis in 2006. Data were available in the questionnaire in floppy disks from the dialysis facilities. The number of patients who satisfied these conditions was 28 353 (male: 18 295, female: 10 055, not specified: 3).

Table 42 shows a summary of dialysis modalities at the end of 2006 for the incident patients ($n = 28\,353$). Of these, 26 209 (92.4%) were treated by facility dialysis and 1414 (5.0%) were treated by 24-h continuous ambulatory peritoneal dialysis (CAPD), with the bag changed manually.

2. Clinical symptoms of patients at the introduction to dialysis. In the latest survey, the presence or absence of various clinical symptoms of the patients at the introduction to dialysis was studied (Table 43). The major symptoms were as follows: digestive symptoms, retention of body fluid, and acid–base and electrolyte abnormalities were noted in approximately one-half of the patients. Following these signs and symptoms, blood abnormality and cardiovascular

TABLE 42. *Methods of dialysis at the end of the year of introduction onto dialysis (patients whose clinical condition at introduction onto dialysis were surveyed)*

	Method of dialysis							
	Facility hemodialysis	Hemo-diafiltration	Hemo-filtration	Hemo-adsorption	Home hemodialysis	CAPD	IPD	Total
Number of patients	26 209	634	48	2	3	1414	43	28 353
(%)	(92.4)	(2.2)	(0.2)	(0.0)	(0.0)	(5.0)	(0.2)	(100.0)

CAPD, continuous ambulatory peritoneal dialysis; IPD, intermittent peritoneal dialysis.

TABLE 43. *Clinical conditions at introduction onto dialysis (patients whose clinical conditions at introduction onto dialysis were surveyed)*

Clinical condition	Without symptoms	With symptoms	Subtotal	Unspecified	No information available	Total
History of cardiac infarction before start of dialysis	13 076	1288	14 364	306	13 683	28 353
(%)	(91.0)	(9.0)	(100.0)			
Congestive cardiac failure	10 007	4276	14 283	362	13 708	28 353
(%)	(70.1)	(29.9)	(100.0)			
History of quadruple amputation, complication of arteriosclerosis obliterans or aortic aneurysm of ≥6 cm	13 627	866	14 493	211	13 649	28 353
(%)	(94.0)	(6.0)	(100.0)			
History of brain infarction or transient ischemic attack	12 076	2232	14 308	347	13 698	28 353
(%)	(84.4)	(15.6)	(100.0)			
Dementia	13 155	1233	14 388	250	13 715	28 353
(%)	(91.4)	(8.6)	(100.0)			
Chronic lung disease	13 801	486	14 287	215	13 851	28 353
(%)	(96.6)	(3.4)	(100.0)			
Collagen disease	13 889	342	14 231	275	13 847	28 353
(%)	(97.6)	(2.4)	(100.0)			
Chronic hepatic disease (without portal hypertension) or chronic hepatitis	13 436	792	14 228	215	13 910	28 353
(%)	(94.4)	(5.6)	(100.0)			
Diabetes (without end-stage organ damage, patients treated only by dietary therapy are not included)	10 626	3521	14 147	238	13 968	28 353
(%)	(75.1)	(24.9)	(100.0)			
Hemiplegia	13 545	773	14 318	155	13 880	28 353
(%)	(94.6)	(5.4)	(100.0)			
Diabetes (severe retinopathy, nervous disorder, renal disorder, labile diabetes)	9 195	5018	14 213	242	13 898	28 353
(%)	(64.7)	(35.3)	(100.0)			
Malignant tumors (those without metastasis and five years has passed since diagnosis are not included)	13 421	813	14 234	245	13 874	28 353
(%)	(94.3)	(5.7)	(100.0)			
Leukemia (acute and chronic)	14 308	49	14 357	169	13 827	28 353
(%)	(99.7)	(0.3)	(100.0)			
Lymphoma	14 224	56	14 280	214	13 859	28 353
(%)	(99.6)	(0.4)	(100.0)			
Moderate and end-stage hepatic disease	13 884	346	14 230	228	13 895	28 353
(%)	(97.6)	(2.4)	(100.0)			
Metastasizing malignant tumors	14 024	204	14 228	241	13 884	28 353
(%)	(98.6)	(1.4)	(100.0)			
Acquired immunodeficiency syndrome	11 981	12	11 993	2531	13 829	28 353
(%)	(99.9)	(0.1)	(100.0)			
With or without retention of body fluid (generalized edema, severe hypoproteinemia, pneumonedema)	6 629	6687	13 316	575	14 462	28 353
(%)	(49.8)	(50.2)	(100.0)			
With or without fluid abnormality (uncontrollable electrolyte and acid-base imbalance)	6 571	6262	12 833	1032	14 488	28 353
(%)	(51.2)	(48.8)	(100.0)			
With or without digestive symptoms (nausea, vomiting, loss of appetite, diarrhea)	6 231	6865	13 096	751	14 506	28 353
(%)	(47.6)	(52.4)	(100.0)			
With or without cardiovascular symptoms (serious hypertension, cardiac failure, pericarditis)	7 888	5283	13 171	625	14 557	28 353
(%)	(59.9)	(40.1)	(100.0)			
With or without nervous disorder symptoms (central and peripheral nervous disorder, mental disorder)	11 289	1770	13 059	787	14 507	28 353
(%)	(86.4)	(13.6)	(100.0)			
With or without blood disorder (severe anemia, bleeding tendency)	7 518	5666	13 184	610	14 559	28 353
(%)	(57.0)	(43.0)	(100.0)			
With or without impaired eyesight (uremic retinopathy, diabetic retinopathy)	9 808	3248	13 056	876	14 421	28 353
(%)	(75.1)	(24.9)	(100.0)			

TABLE 44. *Serum creatinine levels prior to first dialysis and gender (patients whose clinical conditions at introduction onto dialysis were surveyed)*

	Serum creatinine levels (mg/dL) prior to first dialysis																						
Gender	<2	2–2.9	3–3.9	4–4.9	5–5.9	6–6.9	7–7.9	8–8.9	9–9.9	10–10.9	11–11.9	12–12.9	13–13.9	14–14.9	15–15.9	16–16.9	17–17.9	18–18.9	19–19.9	≥20	Subtotal	No information available	Total	Mean	SD
Male	34	131	300	537	892	1190	1472	1699	1193	875	549	382	256	203	143	84	83	54	33	120	10 230	8 065	18 295	8.72	3.67
(%)	(0.3)	(1.3)	(2.9)	(5.2)	(8.7)	(11.6)	(14.4)	(16.6)	(11.7)	(8.6)	(5.4)	(3.7)	(2.5)	(2.0)	(1.4)	(0.8)	(0.8)	(0.5)	(0.3)	(1.2)	(100.0)				
Female	52	144	300	462	670	725	821	832	588	363	242	150	111	37	31	23	16	16	10	30	5 623	4 432	10 055	7.73	3.32
(%)	(0.9)	(2.6)	(5.3)	(8.2)	(11.9)	(12.9)	(14.6)	(14.8)	(10.5)	(6.5)	(4.3)	(2.7)	(2.0)	(0.7)	(0.6)	(0.4)	(0.3)	(0.3)	(0.2)	(0.5)	(100.0)				
Subtotal	86	275	600	999	1 562	1915	2293	2531	1781	1238	791	532	367	240	174	107	99	70	43	150	15 853	12 497	28 350	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.9)	(12.1)	(14.5)	(16.0)	(11.2)	(7.8)	(5.0)	(3.4)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				
No information available	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
(%)																									
Total	86	275	600	999	1 562	1915	2293	2531	1781	1238	791	532	367	240	174	107	99	70	43	150	15 853	12 500	28 353	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.9)	(12.1)	(14.5)	(16.0)	(11.2)	(7.8)	(5.0)	(3.4)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				

Values in parentheses below each figure represent percentage relative to the subtotal of each row.

symptoms were noted in approximately 40% of the patients. Moreover, impaired vision was noted in 24.8% and nerve system disorder symptoms were noted in 13.6% of the patients.

3. Serum creatinine level in patients at the introduction to dialysis. The mean serum creatinine level at the introduction to dialysis in the patients whose data were available ($n = 15\,853$) was 8.37 ± 3.58 mg/dL. The mean serum creatinine levels in male and female patients at introduction onto dialysis were 8.72 ± 3.67 mg/dL and 7.73 ± 3.32 mg/dL, respectively (Table 44). The serum creatinine level at the introduction to dialysis in the patients aged <15 years was low and that in the patients aged =15 years tended to decrease with age (Table 45). Regarding the relationship between the treatment method and serum creatinine level (Table 46), the mean serum creatinine level was lowest in patients who were on hemofiltration; however, no clear relationship was observed in patients on other dialysis modalities. According to the distribution of the number of patients in terms of the serum creatinine level at the introduction to dialysis and primary renal disease (Table 47), the mean serum creatinine level was lower in patients with diabetic nephropathy than in patients with chronic glomerulonephritis.

4. Estimated glomerular filtration rate of patients at the introduction to dialysis. The estimated glomerular filtration rate (eGFR) (mL/min/1.73 m^2) of patients at the introduction to dialysis was calculated and tabulated in terms of gender, age, and serum creatinine level of the patients at the time of their introduction to dialysis. The eGFR was obtained by multiplying the Modification of Diet in Renal Disease (MDRD) Study equation corrected by the Japanese factor (4). When the serum creatinine level was measured by the Jaffe method, the following equation was used:

$$\text{eGFR of male patients} = 186 \times \left\{\text{serum creatinine}^{(-1.154)}\right\} \times \left\{\text{age}^{(-0.203)}\right\} \times 0.881$$

When the serum creatinine level was determined by the enzyme method, the following equation was used:

$$\text{eGFR of male patients} = 175 \times \left\{\text{serum creatinine}^{(-1.154)}\right\} \times \left\{\text{age}^{(-0.203)}\right\} \times 0.741$$

The eGFR of female patients was calculated by multiplying the value obtained using the above equa-

TABLE 45. *Serum creatinine levels (mg/dL) prior to first dialysis and ages (patients whose clinical conditions at introduction onto dialysis were surveyed)*

	Serum creatinine levels (mg/dL) prior to first dialysis																								
Age	<2	2–2.9	3–3.9	4–4.9	5–5.9	6–6.9	7–7.9	8–8.9	9–9.9	10–10.9	11–11.9	12–12.9	13–13.9	14–14.9	15–15.9	16–16.9	17–17.9	18–18.9	19–19.9	≥20	Sub-total	No information available	Total	Mean	SD
<15	3	1	1	1	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	12	15	27	5.46	3.80
(%)	(25.0)	(8.3)	(8.3)	(8.3)	(16.7)	(0.0)	(0.0)	(16.7)	(0.0)	(8.3)	(0.0)	(0.0)	(8.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
15–29	0	0	3	4	4	4	10	11	20	9	15	7	2	3	6	7	5	0	5	7	122	106	228	11.66	5.29
(%)	(0.0)	(0.0)	(2.5)	(3.3)	(3.3)	(3.3)	(8.2)	(9.0)	(16.4)	(7.4)	(12.3)	(5.7)	(1.6)	(2.5)	(4.9)	(5.7)	(4.1)	(0.0)	(4.1)	(5.7)	(100.0)				
30–44	1	3	5	17	31	46	92	123	112	102	71	51	63	33	32	20	18	17	3	45	885	691	1 576	11.13	4.87
(%)	(0.1)	(0.3)	(0.6)	(1.9)	(3.5)	(5.2)	(10.4)	(13.9)	(12.7)	(11.5)	(8.0)	(5.8)	(7.1)	(3.7)	(3.6)	(2.3)	(2.0)	(1.9)	(0.3)	(5.1)	(100.0)				
45–59	9	32	68	129	224	311	429	557	429	327	242	171	106	84	51	44	31	26	17	50	3 337	2 500	5 837	9.35	3.84
(%)	(0.3)	(1.0)	(2.0)	(3.9)	(6.7)	(9.3)	(12.9)	(16.7)	(12.9)	(9.8)	(7.3)	(5.1)	(3.2)	(2.5)	(1.5)	(1.3)	(0.9)	(0.8)	(0.5)	(1.5)	(100.0)				
60–74	29	102	238	340	602	783	986	1135	756	547	304	209	147	88	67	28	43	23	12	38	6 477	5 049	11 526	8.34	3.32
(%)	(0.4)	(1.6)	(3.7)	(5.2)	(9.3)	(12.1)	(15.2)	(17.5)	(11.7)	(8.4)	(4.7)	(3.2)	(2.3)	(1.4)	(1.0)	(0.4)	(0.7)	(0.4)	(0.2)	(0.6)	(100.0)				
75–89	42	124	266	472	660	737	744	681	449	242	156	92	46	31	16	8	2	4	5	10	4 787	3 865	8 652	7.23	2.82
(%)	(0.9)	(2.6)	(5.6)	(9.9)	(13.8)	(15.4)	(15.5)	(14.2)	(9.4)	(5.1)	(3.3)	(1.9)	(1.0)	(0.6)	(0.3)	(0.2)	(0.0)	(0.1)	(0.1)	(0.2)	(100.0)				
≥90	2	13	19	36	39	33	32	22	15	10	3	2	2	1	2	0	0	0	1	0	232	213	445	6.49	2.69
(%)	(0.9)	(5.6)	(8.2)	(15.5)	(16.8)	(14.2)	(13.8)	(9.5)	(6.5)	(4.3)	(1.3)	(0.9)	(0.9)	(0.4)	(0.9)	(0.0)	(0.0)	(0.0)	(0.4)	(0.0)	(100.0)				
Subtotal	86	275	600	999	1562	1914	2293	2531	1781	1238	791	532	367	240	174	107	99	70	43	150	15 852	12 439	28 291	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.9)	(12.1)	(14.5)	(16.0)	(11.2)	(7.8)	(5.0)	(3.4)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				
No information available	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	61	62	6.70	
(%)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Total	86	275	600	999	1562	1915	2293	2531	1781	1238	791	532	367	240	174	107	99	70	43	150	15 853	12 500	28 353	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.9)	(12.1)	(14.5)	(16.0)	(11.2)	(7.8)	(5.0)	(3.4)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				
Mean	70.19	72.79	72.69	72.37	71.17	70.25	68.17	66.51	65.20	63.60	62.07	61.53	59.45	59.20	57.48	53.19	55.14	54.93	55.23	51.92	66.88	67.17	67.00		
SD	16.37	11.86	11.45	11.90	11.89	11.54	12.16	12.29	12.86	12.85	13.48	13.48	13.89	13.57	14.88	14.44	13.59	13.48	16.95	14.94	13.21	13.43	13.31		

Values in parentheses below each figure represent percentage relative to the subtotal of each row.

TABLE 46. *Serum creatinine levels (mg/dL) prior to first dialysis and methods of dialysis at the end of the year of introduction onto dialysis (patients whose clinical conditions at introduction onto dialysis were surveyed)*

	Serum creatinine levels (mg/dL) prior to first dialysis																								
Method of dialysis	<2	2–2.9	3–3.9	4–4.9	5–5.9	6–6.9	7–7.9	8–8.9	9–9.9	10–10.9	11–11.9	12–12.9	13–13.9	14–14.9	15–15.9	16–16.9	17–17.9	18–18.9	19–19.9	≥20	Sub-total	No information available	Total	Mean	SD
Facility hemodialysis	78	255	558	914	1452	1779	2108	2347	1648	1131	723	487	338	220	161	99	92	64	40	134	14 628	11 581	26 209	8.36	3.56
(%)	(0.5)	(1.7)	(3.8)	(6.2)	(9.9)	(12.2)	(14.4)	(16.0)	(11.3)	(7.7)	(4.9)	(3.3)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				
Hemo-diafiltration	3	10	22	47	45	42	54	45	45	30	21	10	11	7	4	2	4	0	0	8	410	224	634	8.20	4.29
(%)	(0.7)	(2.4)	(5.4)	(11.5)	(11.0)	(10.2)	(13.2)	(11.0)	(11.0)	(7.3)	(5.1)	(2.4)	(2.7)	(1.7)	(1.0)	(0.5)	(1.0)	(0.0)	(0.0)	(2.0)	(100.0)				
Hemo-filtration	0	2	4	0	3	1	2	3	2	3	0	0	0	0	0	1	1	0	0	0	22	26	48	7.40	4.00
(%)	(0.0)	(9.1)	(18.2)	(0.0)	(13.6)	(4.5)	(9.1)	(13.6)	(9.1)	(13.6)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(4.5)	(4.5)	(0.0)	(0.0)	(0.0)	(100.0)				
Hemo-adsorption	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	9.00	
(%)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Home hemodialysis	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	8.20	
(%)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
CAPD	5	8	16	38	61	91	127	134	83	70	46	35	17	13	8	5	2	6	3	8	776	638	1 414	8.72	3.61
(%)	(0.6)	(1.0)	(2.1)	(4.9)	(7.9)	(11.7)	(16.4)	(17.3)	(10.7)	(9.0)	(5.9)	(4.5)	(2.2)	(1.7)	(1.0)	(0.6)	(0.3)	(0.8)	(0.4)	(1.0)	(100.0)				
IPD	0	0	0	0	1	2	2	1	2	4	1	0	1	0	1	0	0	0	0	0	15	28	43	9.46	2.85
(%)	(0.0)	(0.0)	(0.0)	(0.0)	(6.7)	(13.3)	(13.3)	(6.7)	(13.3)	(26.7)	(6.7)	(0.0)	(6.7)	(0.0)	(6.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Total	86	275	600	999	1562	1915	2293	2531	1781	1238	791	532	367	240	174	107	99	70	43	150	15 853	12 500	28 353	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.9)	(12.1)	(14.5)	(16.0)	(11.2)	(7.8)	(5.0)	(3.4)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				

Values in parentheses below each figure represent percentage relative to the total of each row. CAPD, continuous ambulatory peritoneal dialysis; IPD, intermittent peritoneal dialysis.

TABLE 47. *Serum creatinine levels (mg/dL) prior to first dialysis and primary diseases (patients whose clinical conditions at introduction onto dialysis were surveyed)*

	Serum creatinine levels (mg/dL) prior to first dialysis																								
Primary disease	<2	2–2.9	3–3.9	4–4.9	5–5.9	6–6.9	7–7.9	8–8.9	9–9.9	10–10.9	11–11.9	12–12.9	13–13.9	14–14.9	15–15.9	16–16.9	17–17.9	18–18.9	19–19.9	≥20	Sub-total	No information available	Total	Mean	SD
Chronic glomerulonephritis	15	45	114	185	312	388	512	601	449	366	237	174	124	92	59	50	38	25	12	56	3 854	2 927	6 781	9.07	3.89
(%)	(0.4)	(1.2)	(3.0)	(4.8)	(8.1)	(10.1)	(13.3)	(15.6)	(11.7)	(9.5)	(6.1)	(4.5)	(3.2)	(2.4)	(1.5)	(1.3)	(1.0)	(0.6)	(0.3)	(1.5)	(100.0)				
Chronic pyelonephritis	1	0	9	7	9	12	16	22	18	11	7	6	6	0	0	1	0	3	0	2	130	93	223	8.77	3.79
(%)	(0.8)	(0.0)	(6.9)	(5.4)	(6.9)	(9.2)	(12.3)	(16.9)	(13.8)	(8.5)	(5.4)	(4.6)	(4.6)	(0.0)	(0.0)	(0.8)	(0.0)	(2.3)	(0.0)	(1.5)	(100.0)				
Rapidly progressive glomerulonephritis	1	4	11	12	17	26	27	36	26	18	18	6	7	3	3	0	1	2	0	1	219	192	411	8.39	3.13
(%)	(0.5)	(1.8)	(5.0)	(5.5)	(7.8)	(11.9)	(12.3)	(16.4)	(11.9)	(8.2)	(8.2)	(2.7)	(3.2)	(1.4)	(1.4)	(0.0)	(0.5)	(0.9)	(0.0)	(0.5)	(100.0)				
Nephropathy of pregnancy/pregnancy toxemia	0	0	0	0	1	3	0	1	3	6	2	1	1	0	0	0	1	1	0	0	20	10	30	10.45	3.35
(%)	(0.0)	(0.0)	(0.0)	(0.0)	(5.0)	(15.0)	(0.0)	(5.0)	(15.0)	(30.0)	(10.0)	(5.0)	(5.0)	(0.0)	(0.0)	(0.0)	(5.0)	(5.0)	(0.0)	(0.0)	(100.0)				
Other unclassified nephritides	1	2	1	4	8	3	11	11	3	1	3	3	1	2	0	2	1	0	1	2	60	40	100	8.86	4.49
(%)	(1.7)	(3.3)	(1.7)	(6.7)	(13.3)	(5.0)	(18.3)	(18.3)	(5.0)	(1.7)	(5.0)	(5.0)	(1.7)	(3.3)	(0.0)	(3.3)	(1.7)	(0.0)	(1.7)	(3.3)	(100.0)				
Polycystic kidney disease	1	0	6	11	24	33	62	63	60	43	28	14	12	12	6	2	2	0	1	4	384	285	669	9.23	3.52
(%)	(0.3)	(0.0)	(1.6)	(2.9)	(6.3)	(8.6)	(16.1)	(16.4)	(15.6)	(11.2)	(7.3)	(3.6)	(3.1)	(3.1)	(1.6)	(0.5)	(0.5)	(0.0)	(0.3)	(1.0)	(100.0)				
Nephrosclerosis	6	27	56	115	187	248	276	268	181	128	98	60	29	18	21	10	7	7	4	14	1 760	1 316	3 076	8.23	3.43
(%)	(0.3)	(1.5)	(3.2)	(6.5)	(10.6)	(14.1)	(15.7)	(15.2)	(10.3)	(7.3)	(5.6)	(3.4)	(1.6)	(1.0)	(1.2)	(0.6)	(0.4)	(0.4)	(0.2)	(0.8)	(100.0)				
Malignant hypertension	0	0	3	12	14	17	14	12	22	8	8	5	8	2	2	2	0	1	0	3	133	81	214	9.01	4.19
(%)	(0.0)	(0.0)	(2.3)	(9.0)	(10.5)	(12.8)	(10.5)	(9.0)	(16.5)	(6.0)	(6.0)	(3.8)	(6.0)	(1.5)	(1.5)	(1.5)	(0.0)	(0.8)	(0.0)	(2.3)	(100.0)				
Diabetic nephropathy	43	135	303	481	749	911	1045	1180	783	499	283	180	119	83	51	29	34	16	14	41	6 979	5 245	12 224	7.98	3.28
(%)	(0.6)	(1.9)	(4.3)	(6.9)	(10.7)	(13.1)	(15.0)	(16.9)	(11.2)	(7.2)	(4.1)	(2.6)	(1.7)	(1.2)	(0.7)	(0.4)	(0.5)	(0.2)	(0.2)	(0.6)	(100.0)				
SLE nephritis	0	4	4	13	9	12	21	24	10	3	5	3	2	2	1	0	1	0	0	2	116	98	214	7.99	3.64
(%)	(0.0)	(3.4)	(3.4)	(11.2)	(7.8)	(10.3)	(18.1)	(20.7)	(8.6)	(2.6)	(4.3)	(2.6)	(1.7)	(1.7)	(0.9)	(0.0)	(0.9)	(0.0)	(0.0)	(1.7)	(100.0)				
Amyloidal kidney	0	5	6	8	7	12	8	21	6	4	1	5	2	0	2	1	0	0	0	1	89	51	140	7.85	4.14
(%)	(0.0)	(5.6)	(6.7)	(9.0)	(7.9)	(13.5)	(9.0)	(23.6)	(6.7)	(4.5)	(1.1)	(5.6)	(2.2)	(0.0)	(2.2)	(1.1)	(0.0)	(0.0)	(0.0)	(1.1)	(100.0)				
Gouty kidney	0	1	0	1	5	12	6	14	5	3	6	2	3	1	0	0	1	2	0	1	63	35	98	9.19	3.48
(%)	(0.0)	(1.6)	(0.0)	(1.6)	(7.9)	(19.0)	(9.5)	(22.2)	(7.9)	(4.8)	(9.5)	(3.2)	(4.8)	(1.6)	(0.0)	(0.0)	(1.6)	(3.2)	(0.0)	(1.6)	(100.0)				
Renal failure due to congenital abnormal metabolism	0	1	0	0	1	0	2	2	3	0	2	0	1	1	0	1	0	0	0	1	15	10	25	11.47	7.91
(%)	(0.0)	(6.7)	(0.0)	(0.0)	(6.7)	(0.0)	(13.3)	(13.3)	(20.0)	(0.0)	(13.3)	(0.0)	(6.7)	(6.7)	(0.0)	(6.7)	(0.0)	(0.0)	(0.0)	(6.7)	(100.0)				
Kidney and urinary tract tuberculosis	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	4	10	14	7.65	2.64
(%)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(25.0)	(25.0)	(0.0)	(0.0)	(0.0)	(25.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Kidney and urinary tract stone	0	1	1	2	3	3	8	4	2	1	3	2	1	0	1	1	0	0	0	0	33	27	60	8.43	3.25
(%)	(0.0)	(3.0)	(3.0)	(6.1)	(9.1)	(9.1)	(24.2)	(12.1)	(6.1)	(3.0)	(9.1)	(6.1)	(3.0)	(0.0)	(3.0)	(3.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Kidney and urinary tract tumor	2	2	3	9	7	11	10	10	5	1	1	5	1	0	1	1	0	0	1	0	70	71	141	7.48	3.41
(%)	(2.9)	(2.9)	(4.3)	(12.9)	(10.0)	(15.7)	(14.3)	(14.3)	(7.1)	(1.4)	(1.4)	(7.1)	(1.4)	(0.0)	(1.4)	(1.4)	(0.0)	(0.0)	(1.4)	(0.0)	(100.0)				
Obstructive urinary tract difficulty	0	0	3	5	3	5	14	6	8	2	2	2	2	2	0	0	1	0	0	1	56	45	101	8.45	3.43
(%)	(0.0)	(0.0)	(5.4)	(8.9)	(5.4)	(8.9)	(25.0)	(10.7)	(14.3)	(3.6)	(3.6)	(3.6)	(3.6)	(3.6)	(0.0)	(0.0)	(1.8)	(0.0)	(0.0)	(1.8)	(100.0)				
Myeloma	0	0	1	2	7	8	11	9	12	6	3	2	5	0	2	1	0	0	0	2	71	66	137	9.52	5.32
(%)	(0.0)	(0.0)	(1.4)	(2.8)	(9.9)	(11.3)	(15.5)	(12.7)	(16.9)	(8.5)	(4.2)	(2.8)	(7.0)	(0.0)	(2.8)	(1.4)	(0.0)	(0.0)	(0.0)	(2.8)	(100.0)				
Hypoplastic kidney	1	1	1	2	0	3	4	6	3	2	0	1	1	0	1	0	1	0	1	2	30	11	41	9.77	5.55
(%)	(3.3)	(3.3)	(3.3)	(6.7)	(0.0)	(10.0)	(13.3)	(20.0)	(10.0)	(6.7)	(0.0)	(3.3)	(3.3)	(0.0)	(3.3)	(0.0)	(3.3)	(0.0)	(3.3)	(6.7)	(100.0)				
Unspecified	10	32	52	95	147	156	191	199	153	107	71	46	30	18	17	4	10	11	8	14	1 371	1 341	2 712	8.33	3.68
(%)	(0.7)	(2.3)	(3.8)	(6.9)	(10.7)	(11.4)	(13.9)	(14.5)	(11.2)	(7.8)	(5.2)	(3.4)	(2.2)	(1.3)	(1.2)	(0.3)	(0.7)	(0.8)	(0.6)	(1.0)	(100.0)				
Reintroduction after transplantation	1	2	1	2	1	6	5	4	2	5	0	1	1	0	1	1	0	1	0	0	34	35	69	8.32	3.77
(%)	(2.9)	(5.9)	(2.9)	(5.9)	(2.9)	(17.6)	(14.7)	(11.8)	(5.9)	(14.7)	(0.0)	(2.9)	(2.9)	(0.0)	(2.9)	(2.9)	(0.0)	(2.9)	(0.0)	(0.0)	(100.0)				
Others	4	11	25	30	44	39	36	33	26	18	10	11	8	3	5	1	1	1	1	1	308	317	625	7.47	3.46
(%)	(1.3)	(3.6)	(8.1)	(9.7)	(14.3)	(12.7)	(11.7)	(10.7)	(8.4)	(5.8)	(3.2)	(3.6)	(2.6)	(1.0)	(1.6)	(0.3)	(0.3)	(0.3)	(0.3)	(0.3)	(100.0)				
Subtotal	86	273	600	997	1555	1909	2280	2526	1780	1232	789	529	364	239	173	107	99	70	43	148	15 799	12 306	28 105	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.8)	(12.1)	(14.4)	(16.0)	(11.3)	(7.8)	(5.0)	(3.3)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				
No information available	0	2	0	2	7	6	13	5	1	6	2	3	3	1	1	0	0	0	0	2	54	194	248	8.77	3.74
(%)	(0.0)	(3.7)	(0.0)	(3.7)	(13.0)	(11.1)	(24.1)	(9.3)	(1.9)	(11.1)	(3.7)	(5.6)	(5.6)	(1.9)	(1.9)	(0.0)	(0.0)	(0.0)	(0.0)	(3.7)	(100.0)				
Total	86	275	600	999	1562	1915	2293	2531	1781	1238	791	532	367	240	174	107	99	70	43	150	15 853	12 500	28 353	8.37	3.58
(%)	(0.5)	(1.7)	(3.8)	(6.3)	(9.9)	(12.1)	(14.5)	(16.0)	(11.2)	(7.8)	(5.0)	(3.4)	(2.3)	(1.5)	(1.1)	(0.7)	(0.6)	(0.4)	(0.3)	(0.9)	(100.0)				

Values in parentheses below each figure represent percentage relative to the subtotal of each row. SLE, systemic lupus erythematosus.

tions by 0.742; however, it was not calculated in patients <15 years old. The eGFR at the introduction to dialysis of all the patients ($n = 13\,857$) was 5.46 ± 6.60 mL/min/1.73 m^2. As shown in Table 44, the serum creatinine level at the introduction to dialysis of female patients was lower than that of the male patients. Nevertheless, the eGFR in the female patients was lower than that of the male patients (Table 48). The eGFR of the patients in the 35–45 years age range was the lowest, followed by that of the patients in the 15–30 and 45–60 years age ranges (Table 49).

Regarding the relationship between treatment method and serum creatinine level, the eGFR of patients who were treated by hemofiltration was the highest (Table 50), which reflects the result shown in Table 46; however, no significant difference in eGFR was found among the patients who were treated by other methods. The relationship between primary disease and eGFR is shown in Table 51.

CONCLUSION

The Japanese dialysis population is increasing year by year, especially those patients who are elderly or diabetic, and whose rates of complication are higher. Measures to control the increasing numbers of such patients are desired.

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TABLE 48. *Estimated glomerular filtration rates calculated from the serum creatinine level prior to first dialysis and gender (patients whose clinical condition was surveyed at the introduction to dialysis)*

	Estimated glomerular filtration rates (eGFR, mL/min/1.73 m^2) prior to first dialysis																						
Gender	<1	1–1.9	2–3.9	4–5.9	6–7.9	8–9.9	10–11.9	12–13.9	14–15.9	16–17.9	18–19.9	20–21.9	22–23.9	24–25.9	26–27.9	28–29.9	≥30	Subtotal	No information available	Total	Mean	SD
Male	14	138	2334	3794	1493	567	276	116	66	46	28	16	17	13	3	4	14	8 939	9 356	18 295	5.65	4.00
(%)	(0.2)	(1.5)	(26.1)	(42.4)	(16.7)	(6.3)	(3.1)	(1.3)	(0.7)	(0.5)	(0.3)	(0.2)	(0.2)	(0.1)	(0.0)	(0.0)	(0.2)	(100.0)				
Female	13	138	2224	1516	547	200	120	57	18	31	12	12	8	6	4	0	12	4 918	5 137	10 055	5.11	9.67
(%)	(0.3)	(2.8)	(45.2)	(30.8)	(11.1)	(4.1)	(2.4)	(1.2)	(0.4)	(0.6)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				
Subtotal	27	276	4558	5310	2040	767	396	173	84	77	40	28	25	19	7	4	26	13 857	14 493	28 350	5.46	6.60
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				
No information available	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3		
(%)																						
Total	27	276	4558	5310	2040	767	396	173	84	77	40	28	25	19	7	4	26	13 857	14 496	28 353	5.46	6.60
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				

Values in parentheses below each figure represent percentage relative to the subtotal of each row.

TABLE 49. *Estimated glomerular filtration rates calculated from the serum creatinine level prior to first dialysis and ages (patients whose clinical condition was surveyed at the introduction to dialysis)*

	Estimated glomerular filtration rates (eGFR, mL/min/1.73 m^2) prior to first dialysis																					
Age	<1	1–1.9	2–3.9	4–5.9	6–7.9	8–9.9	10–11.9	12–13.9	14–15.9	16–17.9	18–19.9	20–21.9	22–23.9	24–25.9	26–27.9	28–29.9	≥30	Subtotal	No information available	Total	Mean	SD
<15	2	0	1	0	2	1	0	1	1	0	1	0	0	0	0	0	2	11	16	27	23.25	38.23
(%)	(18.2)	(0.0)	(9.1)	(0.0)	(18.2)	(9.1)	(0.0)	(9.1)	(9.1)	(0.0)	(9.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(18.2)	(100.0)				
15–29	1	5	53	30	9	2	2	3	1	2	0	0	0	0	0	0	0	108	120	228	4.62	3.03
(%)	(0.9)	(4.6)	(49.1)	(27.8)	(8.3)	(1.9)	(1.9)	(2.8)	(0.9)	(1.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
30–44	5	49	343	267	71	25	10	0	1	1	2	0	1	1	0	0	0	776	800	1 576	4.32	2.33
(%)	(0.6)	(6.3)	(44.2)	(34.4)	(9.1)	(3.2)	(1.3)	(0.0)	(0.1)	(0.1)	(0.3)	(0.0)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(100.0)				
45–59	5	86	1142	1064	357	126	62	21	13	14	8	4	1	7	0	0	5	2 915	2 922	5 837	4.96	3.15
(%)	(0.2)	(3.0)	(39.2)	(36.5)	(12.2)	(4.3)	(2.1)	(0.7)	(0.4)	(0.5)	(0.3)	(0.1)	(0.0)	(0.2)	(0.0)	(0.0)	(0.2)	(100.0)				
60–74	10	100	1864	2258	796	304	150	70	34	26	14	11	11	4	3	0	7	5 662	5 864	11 526	5.41	8.45
(%)	(0.2)	(1.8)	(32.9)	(39.9)	(14.1)	(5.4)	(2.6)	(1.2)	(0.6)	(0.5)	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.1)	(100.0)				
75–89	4	34	1115	1610	763	296	161	71	31	34	14	12	11	7	4	4	11	4 182	4 470	8 652	6.00	5.76
(%)	(0.1)	(0.8)	(26.7)	(38.5)	(18.2)	(7.1)	(3.8)	(1.7)	(0.7)	(0.8)	(0.3)	(0.3)	(0.3)	(0.2)	(0.1)	(0.1)	(0.3)	(100.0)				
≥90	0	2	40	81	42	13	11	7	3	0	1	1	1	0	0	0	1	203	242	445	6.54	5.44
(%)	(0.0)	(1.0)	(19.7)	(39.9)	(20.7)	(6.4)	(5.4)	(3.4)	(1.5)	(0.0)	(0.5)	(0.5)	(0.5)	(0.0)	(0.0)	(0.0)	(0.5)	(100.0)				
Subtotal	27	276	4558	5310	2040	767	396	173	84	77	40	28	25	19	7	4	26	13 857	14 434	28 291	5.46	6.60
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				
No information available (%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62		
Total	27	276	4558	5310	2040	767	396	173	84	77	40	28	25	19	7	4	26	13 857	14 496	28 353	5.46	6.60
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				
Mean	56.00	58.07	64.51	67.41	69.38	69.79	71.01	71.55	70.04	68.87	66.93	72.86	73.36	65.53	75.00	81.75	65.42	66.87	67.13	67.00		
SD	21.84	14.99	13.44	12.71	12.50	12.33	12.45	13.12	14.21	13.77	15.76	10.41	11.86	13.70	4.83	5.12	20.88	13.24	13.37	13.31		

Values in parentheses below each figure represent percentage relative to the subtotal of each row.

TABLE 50. *Estimated glomerular filtration rates calculated from the serum creatinine level prior to first dialysis and the methods of dialysis at the end of the year of introduction to dialysis (patients whose clinical condition was surveyed at the introduction to dialysis)*

	Estimated glomerular filtration rates (eGFR, mL/min/1.73 m^2) prior to first dialysis																					
Method of dialysis	<1	1–1.9	2–3.9	4–5.9	6–7.9	8–9.9	10–11.9	12–13.9	14–15.9	16–17.9	18–19.9	20–21.9	22–23.9	24–25.9	26–27.9	28–29.9	≥30	Subtotal	No information available	Total	Mean	SD
Facility hemodialysis	23	254	4175	4908	1875	704	373	156	76	74	36	26	21	18	6	4	23	12 752	13 457	26 209	5.45	6.67
(%)	(0.2)	(2.0)	(32.7)	(38.5)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.0)	(0.0)	(0.2)	(100.0)				
Hemo-diafiltration	1	10	119	122	68	28	16	8	4	2	3	0	0	1	1	0	1	384	250	634	5.93	5.97
(%)	(0.3)	(2.6)	(31.0)	(31.8)	(17.7)	(7.3)	(4.2)	(2.1)	(1.0)	(0.5)	(0.8)	(0.0)	(0.0)	(0.3)	(0.3)	(0.0)	(0.3)	(100.0)				
Hemo-filtration	0	0	5	6	2	4	1	1	0	0	0	0	2	0	0	0	0	21	27	48	7.78	5.67
(%)	(0.0)	(0.0)	(23.8)	(28.6)	(9.5)	(19.0)	(4.8)	(4.8)	(0.0)	(0.0)	(0.0)	(0.0)	(9.5)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Hemo-adsorption	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4.16	–
(%)	(0.0)	(0.0)	(0.0)	(100.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Home hemodialysis (%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	–	–
CAPD	3	12	252	268	92	31	6	8	4	1	1	2	2	0	0	0	2	684	730	1 414	5.26	5.72
(%)	(0.4)	(1.8)	(36.8)	(39.2)	(13.5)	(4.5)	(0.9)	(1.2)	(0.6)	(0.1)	(0.1)	(0.3)	(0.3)	(0.0)	(0.0)	(0.0)	(0.3)	(100.0)				
IPD	0	0	7	5	3	0	0	0	0	0	0	0	0	0	0	0	0	15	28	43	4.61	1.66
(%)	(0.0)	(0.0)	(46.7)	(33.3)	(20.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Total	27	276	4558	5310	2040	767	396	173	84	77	40	28	25	19	7	4	26	13 857	14 496	28 353	5.46	6.60
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				

Values in parentheses below each figure represent percentage relative to the subtotal of each row. CAPD, continuous ambulatory peritoneal dialysis; IPD, intermittent peritoneal dialysis.

TABLE 51. *Estimated glomerular filtration rates calculated from the serum creatinine level prior to first dialysis and primary diseases (patients whose clinical condition was surveyed at the introduction to dialysis)*

	Estimated glomerular filtration rates (eGFR, mL/min/1.73 m^2) prior to first dialysis																					
Primary disease	<1	1–1.9	2–3.9	4–5.9	6–7.9	8–9.9	10–11.9	12–13.9	14–15.9	16–17.9	18–19.9	20–21.9	22–23.9	24–25.9	26–27.9	28–29.9	≥30	Subtotal	No information available	Total	Mean	SD
Chronic glomerulonephritis	6	100	1 405	1 148	379	123	78	31	11	12	4	6	8	5	0	1	5	3 322	3 459	6 781	4.88	3.25
(%)	(0.2)	(3.0)	(42.3)	(34.6)	(11.4)	(3.7)	(2.3)	(0.9)	(0.3)	(0.4)	(0.1)	(0.2)	(0.2)	(0.2)	(0.0)	(0.0)	(0.2)	(100.0)				
Chronic pyelonephritis	0	5	44	38	12	8	3	2	0	0	0	1	0	0	0	0	0	113	110	223	4.98	2.80
(%)	(0.0)	(4.4)	(38.9)	(33.6)	(10.6)	(7.1)	(2.7)	(1.8)	(0.0)	(0.0)	(0.0)	(0.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Rapidly progressive glomerulonephritis	0	4	80	71	24	10	3	3	2	1	0	1	0	0	0	1	0	200	211	411	5.14	3.23
(%)	(0.0)	(2.0)	(40.0)	(35.5)	(12.0)	(5.0)	(1.5)	(1.5)	(1.0)	(0.5)	(0.0)	(0.5)	(0.0)	(0.0)	(0.0)	(0.5)	(0.0)	(100.0)				
Nephropathy of pregnancy/pregnancy toxemia	0	2	14	2	1	0	0	0	0	0	0	0	0	0	0	0	0	19	11	30	3.16	1.20
(%)	(0.0)	(10.5)	(73.7)	(10.5)	(5.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Other unclassified nephritides	0	4	17	21	4	5	0	0	0	2	0	0	0	0	0	0	1	54	46	100	7.37	17.22
(%)	(0.0)	(7.4)	(31.5)	(38.9)	(7.4)	(9.3)	(0.0)	(0.0)	(0.0)	(3.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.9)	(100.0)				
Polycystic kidney disease	1	7	166	124	27	8	5	0	1	0	0	0	0	0	1	0	0	340	329	669	4.36	2.14
(%)	(0.3)	(2.1)	(48.8)	(36.5)	(7.9)	(2.4)	(1.5)	(0.0)	(0.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.3)	(0.0)	(0.0)	(100.0)				
Nephrosclerosis	4	29	508	602	265	74	37	17	6	11	1	0	3	0	1	0	2	1 560	1 516	3 076	5.60	15.05
(%)	(0.3)	(1.9)	(32.6)	(38.6)	(17.0)	(4.7)	(2.4)	(1.1)	(0.4)	(0.7)	(0.1)	(0.0)	(0.2)	(0.0)	(0.1)	(0.0)	(0.1)	(100.0)				
Malignant hypertension	1	3	41	37	12	8	3	0	0	0	1	0	0	0	0	0	0	106	108	214	4.86	2.47
(%)	(0.9)	(2.8)	(38.7)	(34.9)	(11.3)	(7.5)	(2.8)	(0.0)	(0.0)	(0.0)	(0.9)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Diabetic nephropathy	10	65	1 642	2 542	1 014	411	202	89	46	25	25	17	9	13	4	0	16	6 130	6 094	12 224	5.75	4.19
(%)	(0.2)	(1.1)	(26.8)	(41.5)	(16.5)	(6.7)	(3.3)	(1.5)	(0.8)	(0.4)	(0.4)	(0.3)	(0.1)	(0.2)	(0.1)	(0.0)	(0.3)	(100.0)				
SLE nephritis	1	3	27	37	15	9	1	1	1	0	1	0	0	0	0	0	0	96	118	214	5.38	2.77
(%)	(1.0)	(3.1)	(28.1)	(38.5)	(15.6)	(9.4)	(1.0)	(1.0)	(1.0)	(0.0)	(1.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Amyloidal kidney	0	1	25	28	14	1	3	2	1	2	1	0	0	0	0	0	0	78	62	140	5.80	3.57
(%)	(0.0)	(1.3)	(32.1)	(35.9)	(17.9)	(1.3)	(3.8)	(2.6)	(1.3)	(2.6)	(1.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Gouty kidney	0	2	18	22	8	4	0	1	0	0	0	0	0	0	0	0	0	55	43	98	4.83	2.05
(%)	(0.0)	(3.6)	(32.7)	(40.0)	(14.5)	(7.3)	(0.0)	(1.8)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Renal failure due to congenital abnormal metabolism	0	1	7	3	1	0	0	0	1	0	0	0	0	0	0	0	0	13	12	25	4.55	3.40
(%)	(0.0)	(7.7)	(53.8)	(23.1)	(7.7)	(0.0)	(0.0)	(0.0)	(7.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Kidney and urinary tract tuberculosis	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	12	14	6.21	0.44
(%)	(0.0)	(0.0)	(0.0)	(50.0)	(50.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Kidney and urinary tract stone	0	0	9	15	1	1	3	0	0	1	0	0	0	0	0	0	0	30	30	60	5.64	3.24
(%)	(0.0)	(0.0)	(30.0)	(50.0)	(3.3)	(3.3)	(10.0)	(0.0)	(0.0)	(3.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Kidney and urinary tract tumor	0	1	14	16	17	6	3	0	0	1	1	0	0	0	0	1	0	60	81	141	6.40	4.28
(%)	(0.0)	(1.7)	(23.3)	(26.7)	(28.3)	(10.0)	(5.0)	(0.0)	(0.0)	(1.7)	(1.7)	(0.0)	(0.0)	(0.0)	(0.0)	(1.7)	(0.0)	(100.0)				
Obstructive urinary tract difficulty	0	3	14	17	9	5	2	0	0	1	0	0	0	0	0	0	0	51	50	101	5.34	2.81
(%)	(0.0)	(5.9)	(27.5)	(33.3)	(17.6)	(9.8)	(3.9)	(0.0)	(0.0)	(2.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Myeloma	1	1	21	27	7	1	2	0	0	0	0	0	0	0	0	0	0	60	77	137	4.49	2.04
(%)	(1.7)	(1.7)	(35.0)	(45.0)	(11.7)	(1.7)	(3.3)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Hypoplastic kidney	2	3	6	12	2	0	0	1	0	0	1	0	0	0	0	0	0	27	14	41	4.96	3.80
(%)	(7.4)	(11.1)	(22.2)	(44.4)	(7.4)	(0.0)	(0.0)	(3.7)	(0.0)	(0.0)	(3.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Unspecified	1	35	406	439	173	67	34	17	8	15	3	1	4	1	1	1	2	1 208	1 504	2 712	5.61	7.90
(%)	(0.1)	(2.9)	(33.6)	(36.3)	(14.3)	(5.5)	(2.8)	(1.4)	(0.7)	(1.2)	(0.2)	(0.1)	(0.3)	(0.1)	(0.1)	(0.1)	(0.2)	(100.0)				
Reintroduction after transplantation	0	0	7	14	4	1	1	0	1	2	0	0	0	0	0	0	0	30	39	69	6.02	3.86
(%)	(0.0)	(0.0)	(23.3)	(46.7)	(13.3)	(3.3)	(3.3)	(0.0)	(3.3)	(6.7)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Others	0	5	69	80	47	22	16	7	6	4	2	2	1	0	0	0	0	261	364	625	6.34	3.74
(%)	(0.0)	(1.9)	(26.4)	(30.7)	(18.0)	(8.4)	(6.1)	(2.7)	(2.3)	(1.5)	(0.8)	(0.8)	(0.4)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Subtotal	27	274	4540	5296	2037	764	396	171	84	77	40	28	25	19	7	4	26	13 815	14 290	28 105	5.46	6.61
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				
No information available	0	2	18	14	3	3	0	2	0	0	0	0	0	0	0	0	0	42	206	248	4.81	2.52
(%)	(0.0)	(4.8)	(42.9)	(33.3)	(7.1)	(7.1)	(0.0)	(4.8)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(100.0)				
Total	27	276	4558	5310	2040	767	396	173	84	77	40	28	25	19	7	4	26	13 857	14 496	28 353	5.46	6.60
(%)	(0.2)	(2.0)	(32.9)	(38.3)	(14.7)	(5.5)	(2.9)	(1.2)	(0.6)	(0.6)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.0)	(0.2)	(100.0)				

Values in parentheses below each figure represent percentage relative to the subtotal of each row. SLE, systemic lupus erythematosus.

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