

Thigh circumference (5cm above knee) (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	41.1	3.3	291	40.4	3.0	282	39.3	3.2	283	38.5	3.4	283	39.8	3.4	1139
Female	40.8	3.4	281	39.7	3.3	279	39.2	3.4	285	38.0	3.9	282	39.4	3.7	1127
Total	40.9	3.4	572	40.0	3.2	561	39.3	3.3	568	38.3	3.7	565	39.6	3.5	2266

Calf circumference (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	36.6	2.7	291	35.7	2.4	282	34.8	2.7	283	33.7	2.7	283	35.2	2.8	1139
Female	34.8	2.6	282	34.1	2.5	279	33.3	2.5	285	32.2	2.5	282	33.6	2.7	1128
Total	35.7	2.8	573	34.9	2.6	561	34.0	2.7	568	33.0	2.7	565	34.4	2.9	2267

Upper arm circumference (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	29.2	2.4	291	28.7	2.2	282	27.8	2.4	283	27.0	2.4	283	28.2	2.5	1139
Female	27.3	2.9	282	27.5	2.5	279	27.6	2.6	285	26.8	2.9	282	27.3	2.8	1128
Total	28.3	2.8	573	28.1	2.4	561	27.7	2.5	568	26.9	2.7	565	27.7	2.7	2267

Sagittal abdominal diameter (cm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	29.2	2.4	291	28.7	2.2	282	27.8	2.4	283	27.0	2.4	283	28.2	2.5	1139
Female	27.3	2.9	282	27.5	2.5	279	27.6	2.6	285	26.8	2.9	282	27.3	2.8	1128
Total	28.3	2.8	573	28.1	2.4	561	27.7	2.5	568	26.9	2.7	565	27.7	2.7	2267

BMI (cm/m³)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	23.2	2.8	291	23.3	2.6	282	22.9	2.8	283	22.3	2.9	283	22.9	2.8	1139
Female	22.6	3.4	282	22.8	3.1	279	23.2	3.0	285	23.0	3.7	282	22.9	3.3	1128
Total	22.9	3.1	573	23.0	2.9	561	23.0	2.9	568	22.7	3.3	565	22.9	3.1	2267

Waist (at umbilicus) to hip ratio

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.91	0.05	291	0.92	0.05	282	0.93	0.05	282	0.93	0.06	283	0.92	0.05	1138
Female	0.88	0.06	282	0.91	0.07	279	0.95	0.07	285	0.95	0.07	282	0.92	0.08	1128
Total	0.89	0.06	573	0.92	0.06	561	0.94	0.06	567	0.94	0.07	565	0.92	0.07	2266

Waist (at midway) to hip ratio

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.88	0.05	291	0.90	0.05	282	0.91	0.06	283	0.91	0.07	283	0.90	0.06	1139
Female	0.79	0.06	282	0.82	0.06	279	0.85	0.07	285	0.86	0.07	282	0.83	0.07	1128
Total	0.84	0.07	573	0.86	0.07	561	0.88	0.07	568	0.88	0.07	565	0.87	0.08	2267

2) Body composition

1. Percent body fat

Body density by BOD POD (kg/cm³)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.048	0.014	286	1.047	0.013	276	1.043	0.013	277	1.042	0.015	280	1.045	0.014	1119
Female	1.035	0.015	279	1.028	0.014	273	1.021	0.013	279	1.022	0.015	272	1.027	0.015	1103
Total	1.042	0.016	565	1.038	0.017	549	1.032	0.017	556	1.032	0.018	552	1.036	0.017	2222

Percent body fat by DXA (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	20.7	4.4	290	20.8	4.3	282	21.8	4.2	283	21.9	4.7	282	21.3	4.4	1137
Female	29.7	4.8	282	31.3	4.9	278	32.9	4.8	284	32.1	5.6	276	31.5	5.2	1120
Total	25.1	6.5	572	26.0	7.0	560	27.4	7.2	567	27.0	7.2	558	26.4	7.0	2257

Percent body fat by BOD POD (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	21.7	5.8	286	22.4	5.5	280	23.9	5.6	277	24.4	6.5	280	23.1	6.0	1123
Female	27.6	6.2	281	30.4	6.2	274	33.6	5.8	280	33.2	6.6	274	31.2	6.7	1109
Total	24.6	6.7	567	26.3	7.1	554	28.8	7.5	557	28.7	7.9	554	27.1	7.5	2232

Impedance by Tanita (ohms)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	457.3	60.0	291	449.5	57.8	281	433.1	73.0	282	406.4	79.7	281	436.8	70.8	1135
Female	478.4	62.6	281	469.8	66.0	279	454.4	68.8	285	417.4	82.0	281	455.0	73.9	1126
Total	467.7	62.1	572	459.6	62.8	560	443.8	71.6	567	411.9	81.0	562	445.8	72.9	2261

Percent body fat by Tanita (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	20.9	5.2	291	20.5	5.2	281	18.5	5.6	282	15.6	6.3	281	18.9	5.9	1135
Female	27.4	6.0	281	27.5	5.7	279	27.5	6.0	285	25.1	7.0	281	26.9	6.3	1126
Total	24.1	6.5	572	24.0	6.4	560	23.0	7.3	567	20.4	8.2	562	22.9	7.3	2261

Percent body fat by Sekisui (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	20.7	7.3	268	21.3	7.0	261	21.4	7.2	255	20.4	7.9	248	20.9	7.3	1032
Female	30.3	7.5	263	31.9	7.2	252	33.1	7.1	251	32.4	8.3	249	31.9	7.6	1015
Total	25.4	8.8	531	26.5	8.9	513	27.2	9.2	506	26.4	10.1	497	26.4	9.3	2047

2. Total body water, extracellular fluid volume, intracellular fluid volume

Total body water by Tanita (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	37.8	4.6	291	37.0	4.0	281	36.1	4.6	282	35.2	4.8	281	36.5	4.6	1135
Female	28.5	2.8	281	28.2	2.7	279	27.5	3.0	285	26.7	3.4	281	27.7	3.1	1126
Total	33.2	6.0	572	32.6	5.6	560	31.8	5.8	567	31.0	6.0	562	32.1	5.9	2261

Total body water by XITRON (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	38.9	5.2	290	37.3	4.5	282	34.7	4.7	283	31.8	4.4	282	35.7	5.4	1137
Female	27.4	3.8	281	26.3	3.2	276	24.9	3.1	284	23.2	3.3	281	25.5	3.7	1122
Total	33.3	7.3	571	31.9	6.8	558	29.8	6.3	567	27.5	5.8	563	30.6	6.9	2259

Extracellular fluid by Xitron (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	16.5	1.9	290	16.1	1.8	282	15.5	1.9	283	14.9	1.9	282	15.8	2.0	1137
Female	12.6	1.6	281	12.3	1.4	276	11.9	1.4	284	11.4	1.5	281	12.0	1.5	1122
Total	14.6	2.7	571	14.2	2.5	558	13.7	2.5	567	13.2	2.5	563	13.9	2.6	2259

Intracellular fluid by Xitron (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	22.4	3.5	290	21.2	3.0	282	19.2	3.0	283	16.9	2.7	282	19.9	3.7	1137
Female	14.9	2.5	281	14.0	1.9	276	13.0	1.9	284	11.8	1.9	281	13.4	2.3	1122
Total	18.7	4.8	571	17.7	4.4	558	16.1	4.0	567	14.4	3.4	563	16.7	4.5	2259

Total body water by Sekisui (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	37.2	4.6	268	35.9	4.2	261	33.8	4.1	255	32.2	4.3	249	34.8	4.7	1033
Female	26.7	3.1	264	25.8	2.7	254	24.7	2.7	252	23.5	2.8	251	25.2	3.1	1021
Total	32.0	6.6	532	30.9	6.2	515	29.3	5.7	507	27.8	5.7	500	30.0	6.3	2054

Extracellular fluid by Sekisui (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	12.3	2.1	268	12.3	2.1	261	12.0	2.1	255	12.1	2.3	249	12.2	2.2	1033
Female	8.9	1.6	264	8.8	1.4	254	8.7	1.4	252	8.6	1.5	251	8.7	1.5	1021
Total	10.6	2.5	532	10.5	2.5	515	10.4	2.4	507	10.3	2.6	500	10.5	2.5	2054

Intracellular fluid by Sekisui (1)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	24.9	3.2	268	23.6	2.8	261	21.8	2.6	255	20.1	2.7	249	22.6	3.4	1033
Female	17.8	1.9	264	17.0	1.7	254	16.0	1.8	252	14.9	1.6	251	16.4	2.0	1021
Total	21.4	4.4	532	20.4	4.0	515	18.9	3.6	507	17.5	3.4	500	19.6	4.2	2054

3) Thickness of subcutaneous fat, thickness of preperitoneal fat, thickness of muscle

Thickness of subcutaneous fat at right of umbilicus (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	17.1	6.6	291	15.3	5.9	281	15.0	5.6	282	13.4	5.5	278	15.2	6.1	1132
Female	23.0	8.9	278	24.6	8.9	275	26.1	9.1	280	21.7	8.9	278	23.9	9.1	1111
Total	20.0	8.3	569	19.9	8.9	556	20.5	9.4	562	17.5	8.5	556	19.5	8.9	2243

Thickness of musculus rectus abdominis at right of umbilicus (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	11.5	2.0	291	10.9	1.8	281	9.9	1.8	282	9.5	1.9	278	10.5	2.0	1132
Female	8.9	1.7	276	8.5	1.7	275	8.0	1.6	280	7.5	1.8	277	8.2	1.8	1108
Total	10.3	2.3	567	9.7	2.1	556	9.0	2.0	562	8.5	2.1	555	9.4	2.2	2240

Thickness of subcutaneous fat between xiphoid process and umbilicus (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	11.7	3.8	282	11.1	3.8	280	11.2	3.6	272	10.8	3.7	263	11.2	3.7	1097
Female	16.5	4.9	274	17.5	5.2	275	17.8	5.0	280	16.3	5.3	271	17.0	5.1	1100
Total	14.1	5.0	556	14.3	5.5	555	14.5	5.5	552	13.6	5.3	534	14.1	5.3	2197

Thickness of preperitoneal fat (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	10.3	3.8	283	9.5	3.7	274	9.3	4.0	270	8.1	3.8	259	9.3	3.9	1086
Female	9.8	4.0	274	10.4	4.1	272	9.9	4.0	279	8.7	3.9	270	9.7	4.0	1095
Total	10.1	3.9	557	10.0	3.9	546	9.6	4.0	549	8.4	3.9	529	9.5	4.0	2181

Thickness of subcutaneous fat at thigh (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.6	2.0	291	6.3	1.7	281	6.1	1.9	283	6.2	1.8	278	6.3	1.9	1133
Female	11.2	2.9	280	10.9	3.0	277	10.2	3.0	283	8.8	3.5	281	10.3	3.2	1121
Total	8.9	3.4	571	8.6	3.3	558	8.2	3.2	566	7.5	3.1	559	8.3	3.3	2254

Thickness of musculus rectus femoris (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	33.8	7.0	291	31.9	6.8	281	28.8	7.0	283	26.4	6.6	278	30.2	7.4	1133
Female	31.3	7.0	280	28.6	6.5	277	27.1	6.5	283	23.0	6.0	280	27.5	7.2	1120
Total	32.6	7.1	571	30.3	6.8	558	28.0	6.8	566	24.7	6.5	558	28.9	7.4	2253

Thickness of subcutaneous fat at 10cm above knee (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.5	1.8	219	6.3	1.5	228	6.0	1.8	226	5.9	1.6	231	6.2	1.7	904
Female	10.3	2.5	228	10.2	2.9	227	9.1	2.6	231	7.6	2.9	221	9.3	2.9	907
Total	8.5	2.9	447	8.2	3.0	455	7.6	2.7	457	6.7	2.5	452	7.7	2.9	1811

Thickness of musculus rectus femoris at 10cm above knee (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	25.1	5.8	219	24.0	5.8	228	21.4	5.4	226	20.0	5.2	231	22.6	5.9	904
Female	23.5	5.9	228	21.4	5.5	227	20.3	5.5	231	17.1	4.8	221	20.6	5.9	907
Total	24.3	5.9	447	22.7	5.8	455	20.8	5.5	457	18.6	5.2	452	21.6	6.0	1811

Thickness of subcutaneous fat at 5cm above knee (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.4	1.7	219	6.2	1.5	227	5.7	1.6	227	5.6	1.4	231	6.0	1.6	904
Female	9.6	2.6	228	8.9	2.7	227	8.0	2.4	231	6.7	2.6	221	8.3	2.8	907
Total	8.0	2.7	447	7.6	2.6	454	6.8	2.3	458	6.1	2.2	452	7.1	2.6	1811

Thickness of musculus rectus femoris at 5cm above knee (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	18.5	4.8	219	18.0	4.4	227	16.2	3.9	227	16.0	3.8	231	17.2	4.4	904
Female	17.0	4.7	228	15.6	3.9	227	15.1	3.7	231	13.3	3.3	221	15.2	4.2	907
Total	17.7	4.8	447	16.8	4.3	454	15.6	3.8	458	14.7	3.9	452	16.2	4.4	1811

Thickness of subcutaneous fat at upperarm (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.2	2.1	291	5.9	1.6	280	5.9	1.9	283	5.8	1.6	278	6.0	1.8	1132
Female	10.5	2.8	280	10.7	2.4	276	10.5	2.7	283	9.6	2.6	279	10.3	2.7	1118
Total	8.3	3.3	571	8.3	3.1	556	8.2	3.3	566	7.7	2.9	557	8.1	3.2	2250

Thickness of musculus triceps brachii (mm)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	25.7	5.5	291	25.5	5.7	280	23.2	6.3	283	21.8	6.1	278	24.1	6.1	1132
Female	21.6	5.3	280	21.5	5.0	276	21.3	5.8	283	19.7	5.6	279	21.0	5.5	1118
Total	23.7	5.8	571	23.5	5.7	556	22.2	6.1	566	20.8	5.9	557	22.5	6.0	2250

XII. Head MRI Measurements

XII. Head MRI Measurements

1. Findings and diagnosis

- 1) Brain atrophy
- 2) Ventricular dilatation
- 3) Cerebrovasucular disease (CVD)
- 4) Lacuna
- 5) Thrombosis
- 6) Cerebral embolism
- 7) Cerebral bleeding
- 8) Periventricular hyperintensity (PVH)

2. Measurements

- 1) Total area of brain parenchyma (cm^2)
- 2) Whole brain volume (cm^3)
- 3) Area of vermis in midsagittal slice (cm^2)
- 4) Area of ventral pons in midsagittal slice (cm^2)
- 5) Area of corpus callosum in midsagittal slice (cm^2)
- 6) Cross-sectional area of skull in midsagittal slice (cm^2)
- 7) Area of lateral ventricle (cm^2)
- 8) Area of brain parenchyma (cm^2)
- 9) Area of subarachnoid CSF (forward from the tip of lateral ventricle)(cm^2)
- 10) Area of subarachnoid CSF (subarachnoid CSF from anterior horn to posterior horn) (cm^2)

1. Findings and diagnosis

1) Brain atrophy

Divided into 4 classes according to an annex paper.

2) Ventricular dilatation

Divided into 4 classes according to an annex paper.

3) Cerebrovascular disease

Cerebral infarction

Border zone

Include cerebral cortex

White matter

Basal ganglia, thalamus, internal capsule, midbrain, pons, medulla oblongata

Cerebellar white matter, cerebellar cortex

Decided like following,

Lacuna : The lesions of white matter, basal ganglia, thalamus, internal capsule, midbrain, pons, medulla oblongata and whose size are larger than or equal to 3mm and smaller than or equal to 15mm.

Embolism : Include cerebral or cerebellar cortex, and which is not border zone infarction.

Thrombosis : Other than above.

Cerebral hemorrhage

On T2 weighted image(WI), hyperintensity inside the lesion and no signal around the lesion. Or on T2WI no signal slit lesion.

4) Periventricular hyperintensity

Divide into 4 classes according to an annex paper.

References

Stroke 1994 vol25, p318-327

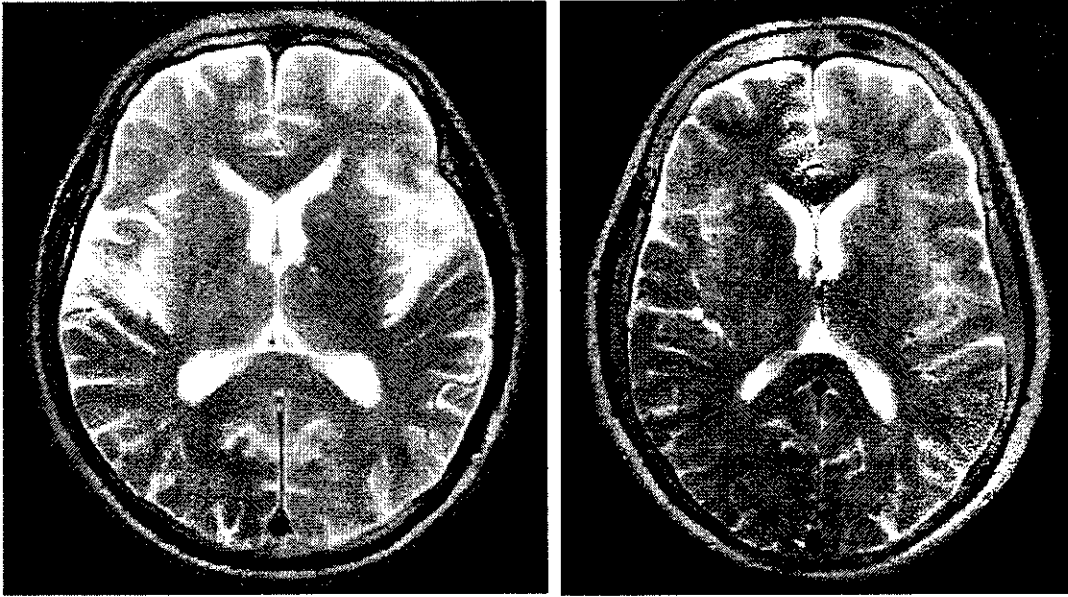
Naika 1997

Nihon naika gakkaiishi 1997

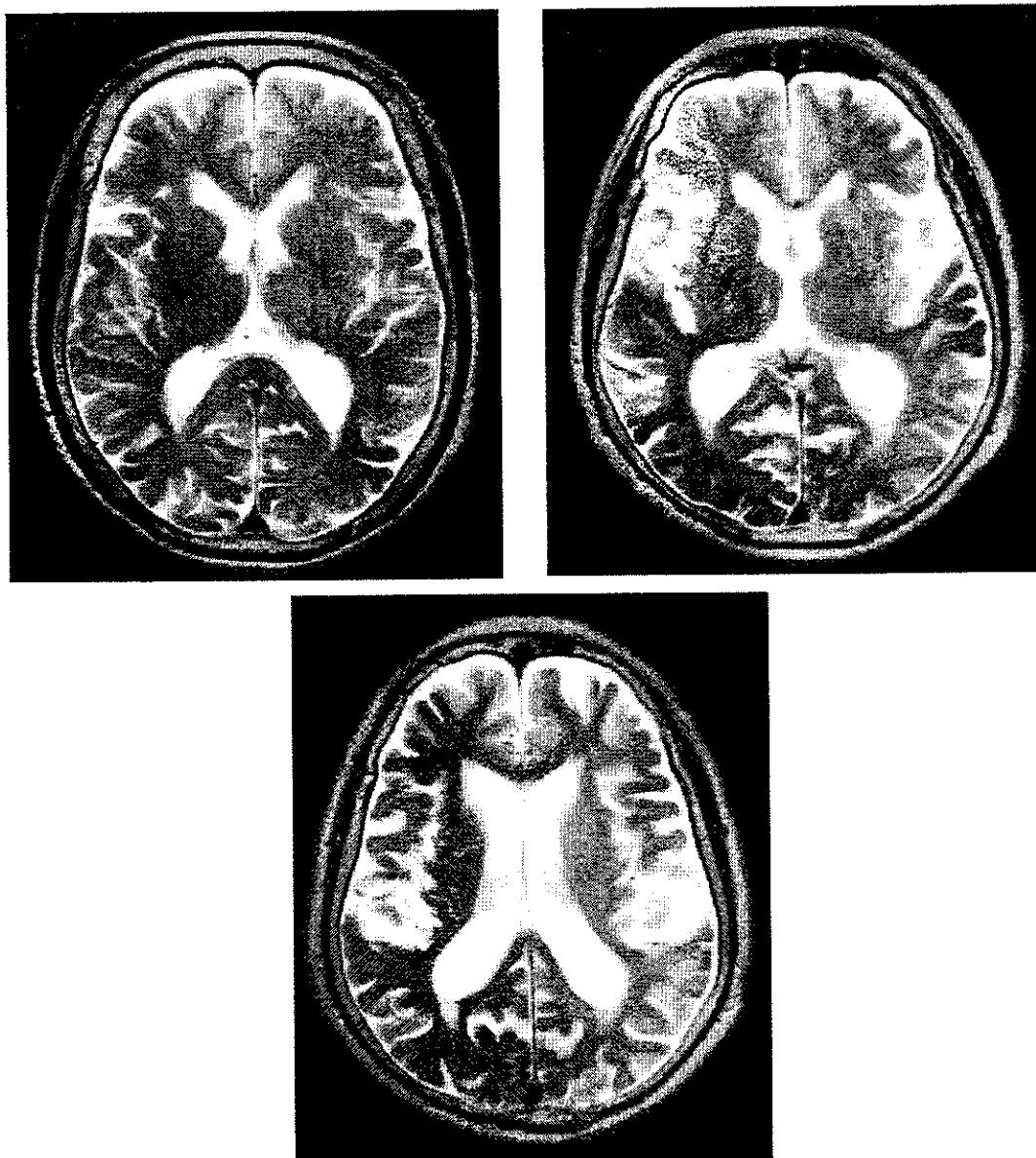
Medicina 1994

Periventricular hyperintensity

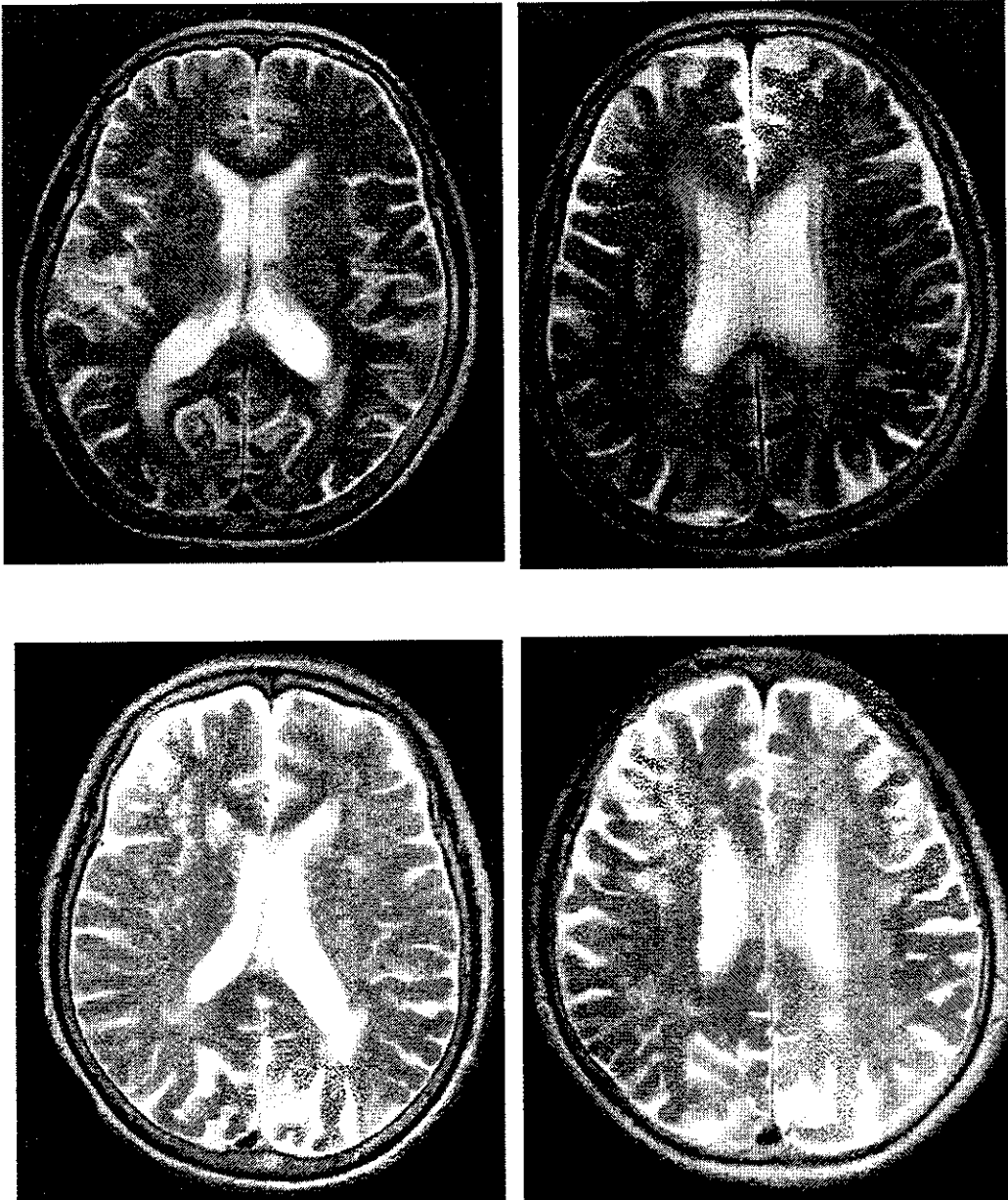
I. None or minimal periventricular signal hyperintensities in the form of caps only in the anterior horn of lateral ventricles.



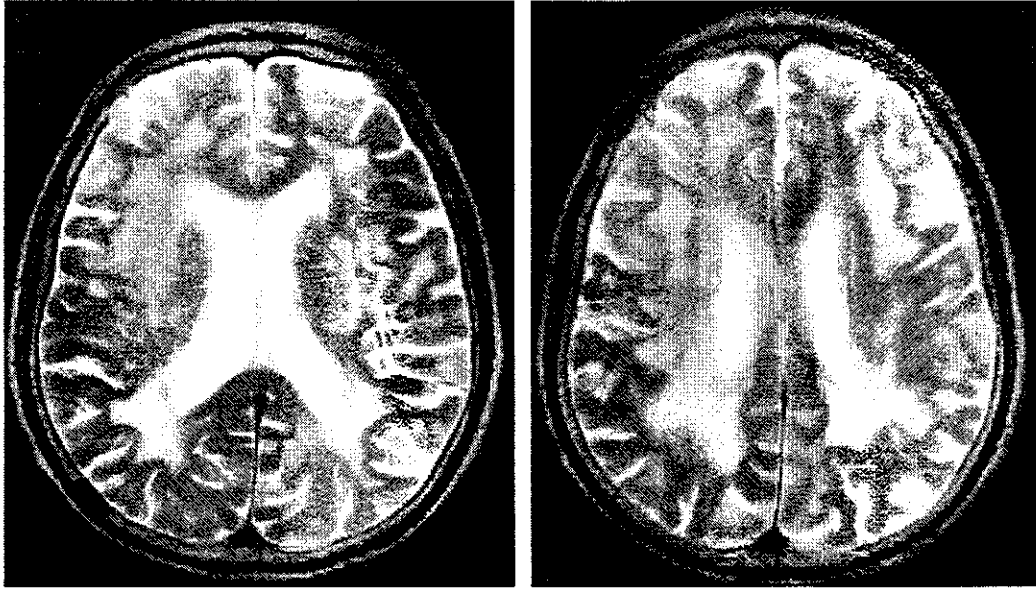
II. Caps in both anterior and posterior horns of lateral ventricles.



III. multifocal periventricular hyperintense punctuate lesions.

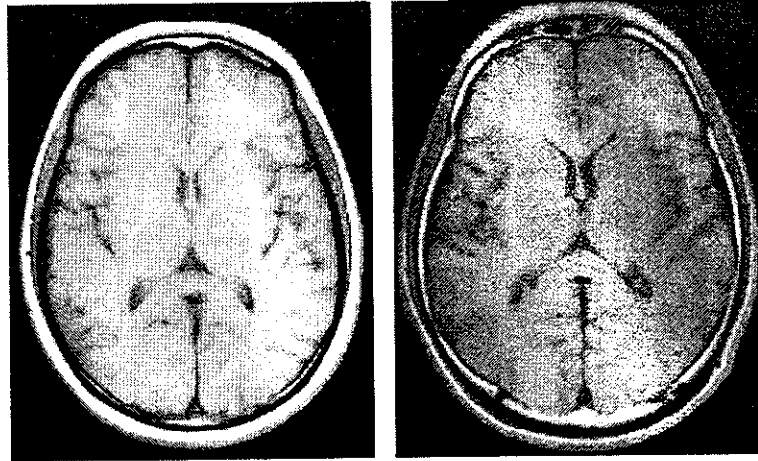


IV. Multiple high signal intensity area that reached confluency in the periventricular region and white matter.

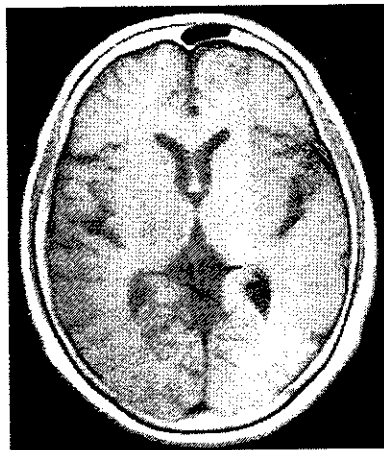


Ventricular dilatation

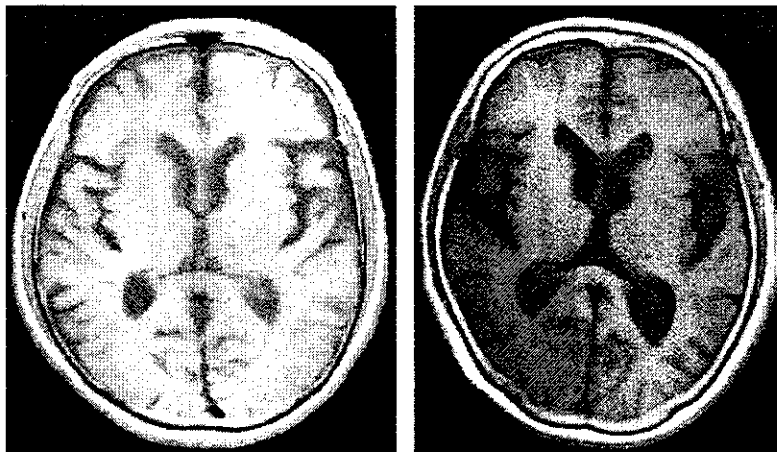
I. none



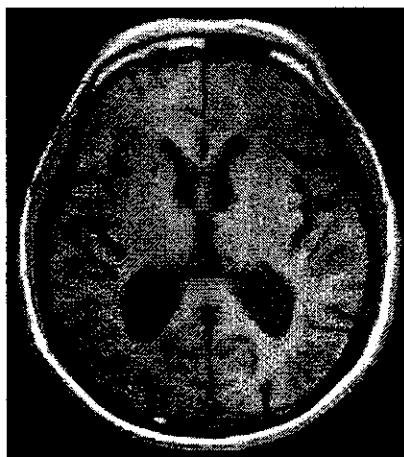
II. mild



III. moderate

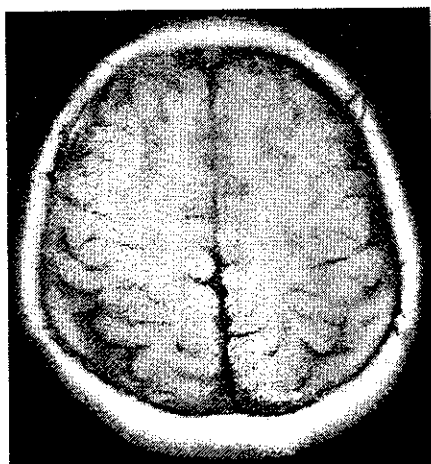


IV. severe

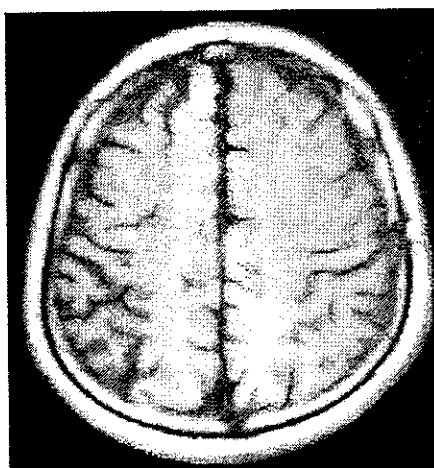


Brain atrophy

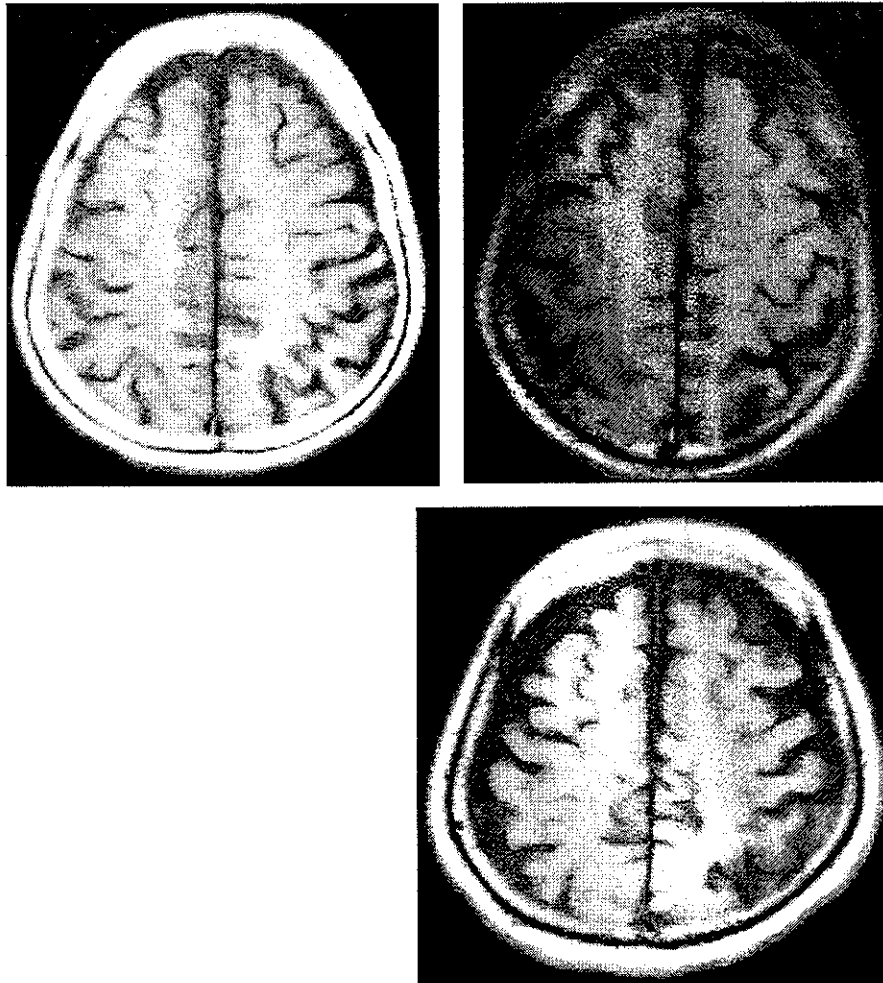
I. none



II. mild



III. Moderate



IV. severe