Japanese Brain Bank Network for Neuroscience Research

Specially Appointed Professor,
Brain Bank for Neurodevelopmental, Neurological and Psychiatric Disorders,
United Graduate School of Child Development,
Osaka University
Specially Appointed Researcher
The Brain Bank for Aging Research
Tokyo Metropolitan Geriatric Hospital and Institute of Gerontology (Cross Appointment)

Shigeo Murayama M.D. Ph.D.

My Background

- I am a Zen master of Soto School.
- I have been educated that those who have eaten food offered to Buddha should dedicate their life to all living creatures on earth.
- To establish all Japan Brain Bank Network is my life work, which I interpret to be Bodhisattva line.
- I will go anywhere to fulfill brain donors' will or guide doctors who want to contribute to brain banking.

COI

None for PO

Academic Society

Vice President: International Society of Neuropathology

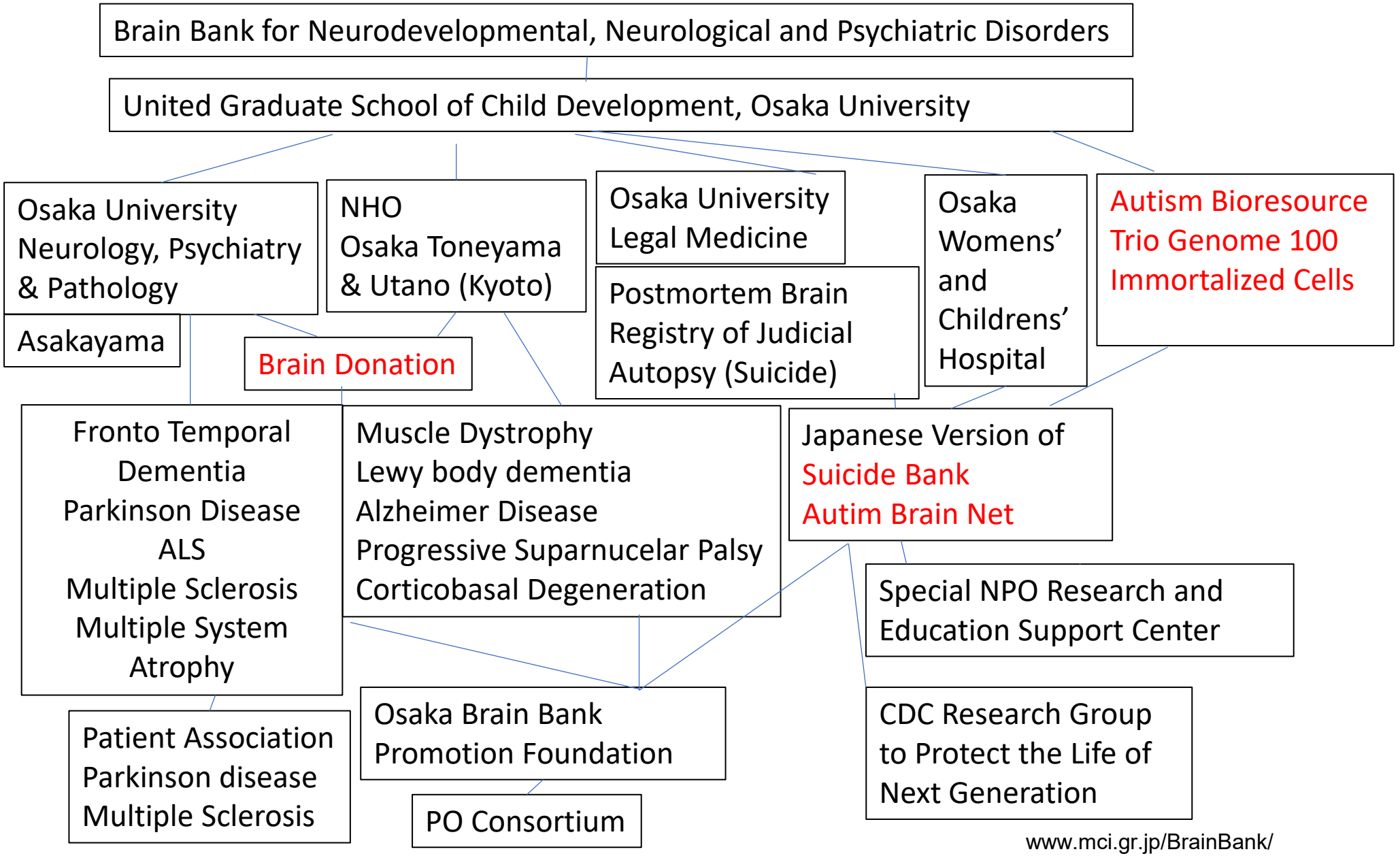
Honorable Member: *the Japanese Societies of Neurology, Neuropathology and Dementia Research*

Associate Editor, Journal of Neuropathology and Experimental Neurology, the official journal of *American Association of Neuropathologists*

Visiting Professor: *Tokushima, Hiroshima, Tottori, Tokyo Medical, Doshisha and Osaka City Universities*;

Neuropathology Consultant: *National Center for Global Medicine, National Hospital Organization, Tokyo, Shimoshizu, Shizuoka Epilepsy and Neurology, West Hiroshima and Okinawa Hospitals; Kagawa University; Kameda, Yokohama Rosai, Toranomon, NTT East Kanto and Chikamori Hospitals*

The Japanese Brain Bank Network, Kansai Base



www.mci.gr.jp/BrainBank/

United Graduate School of Child Development, Osaka University

10/20./2021

Support Book for neurodevelopmental disorders

達成！

第1目標
500万円

サポートブック作成・送付

子どものバイオリソース・
データ活用システムの構築

第2目標
1000万円

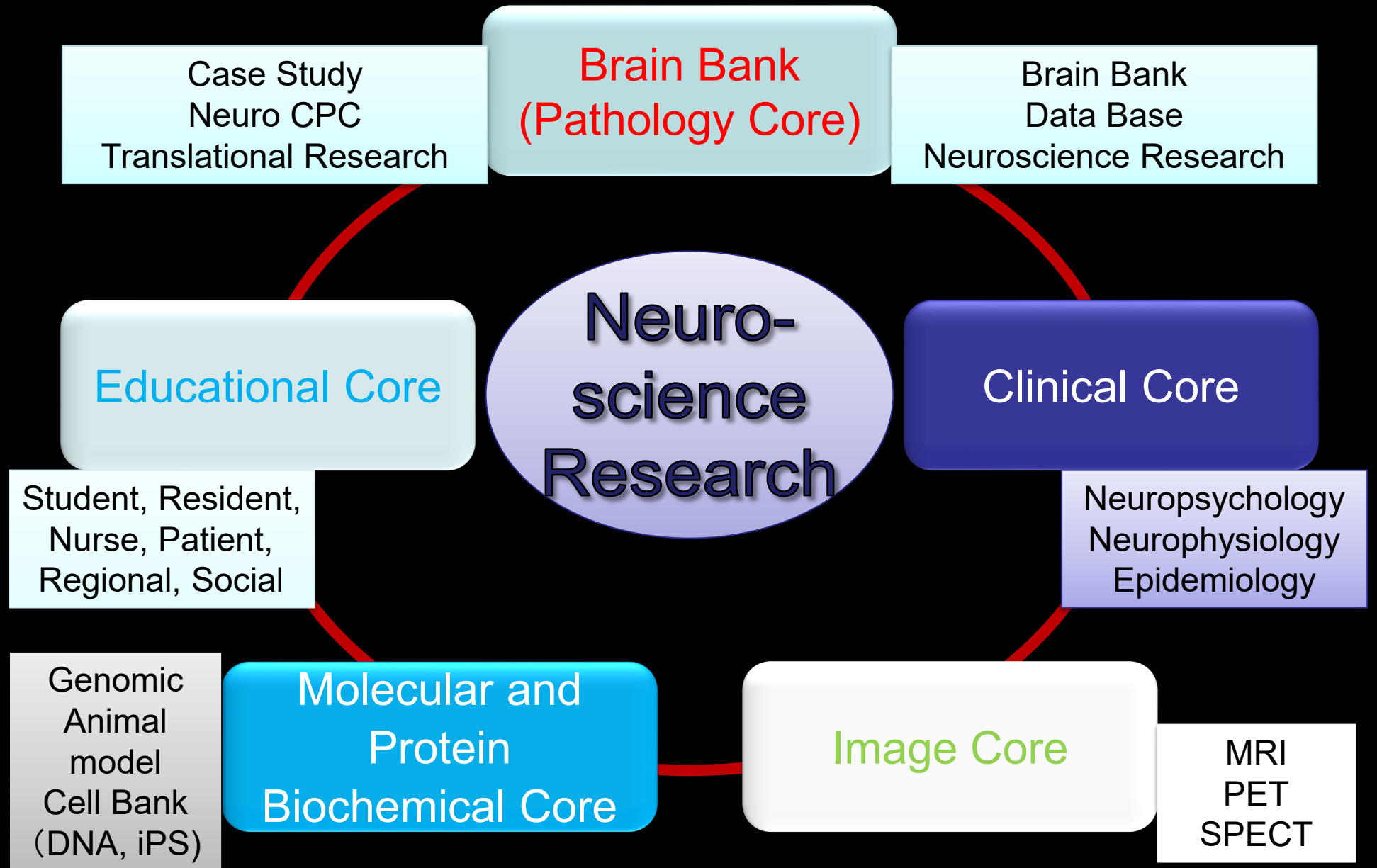
サポートブック作成・送付

神経難病のバイオリソース・
データ活用システムの構築

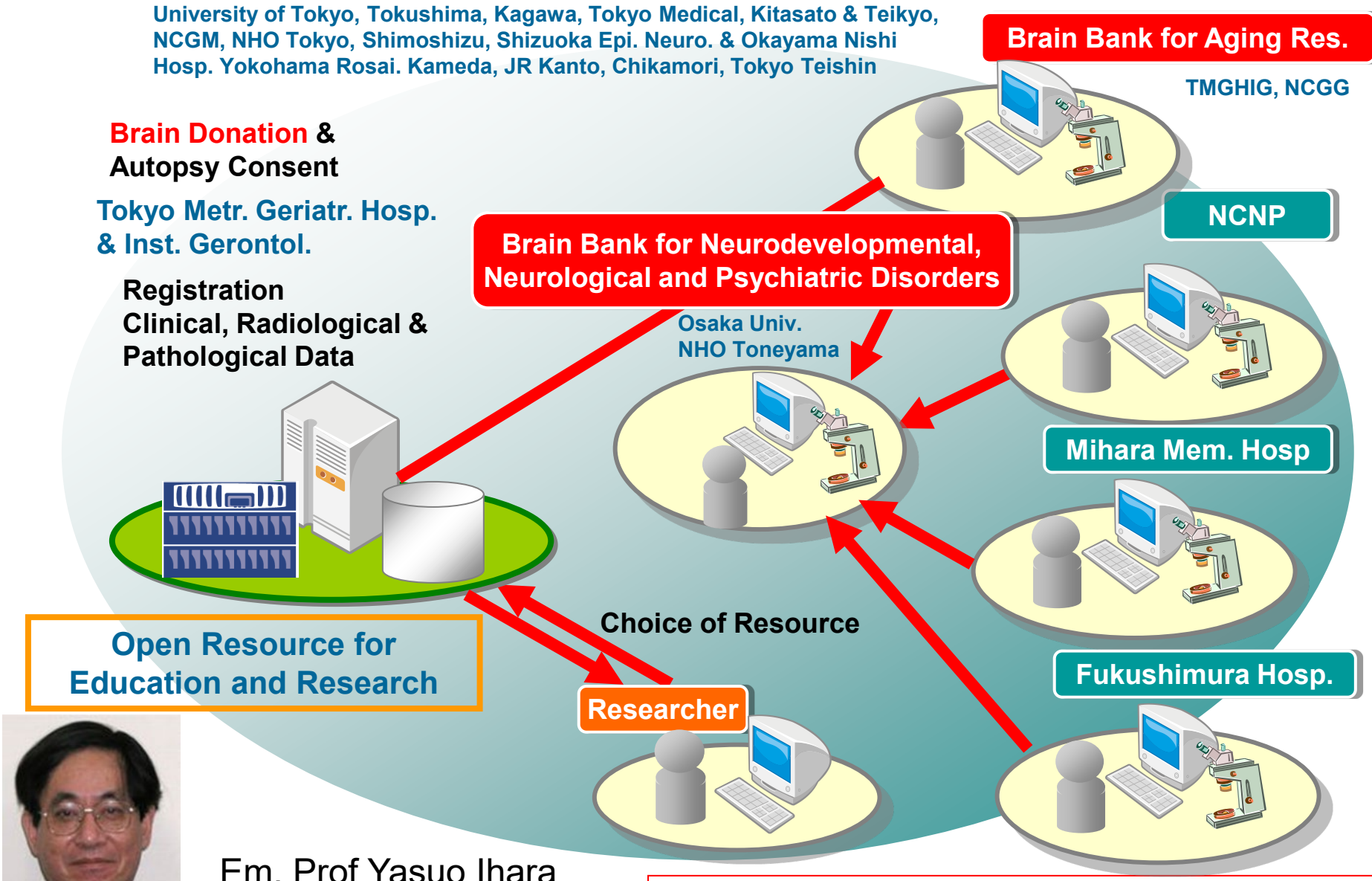
最終額
11,083,000円

Brain Bank for Intractable Neurological Disorders

BRAIN BANK PROJECT



Japanese Brain Bank Network for Neuroscience Research

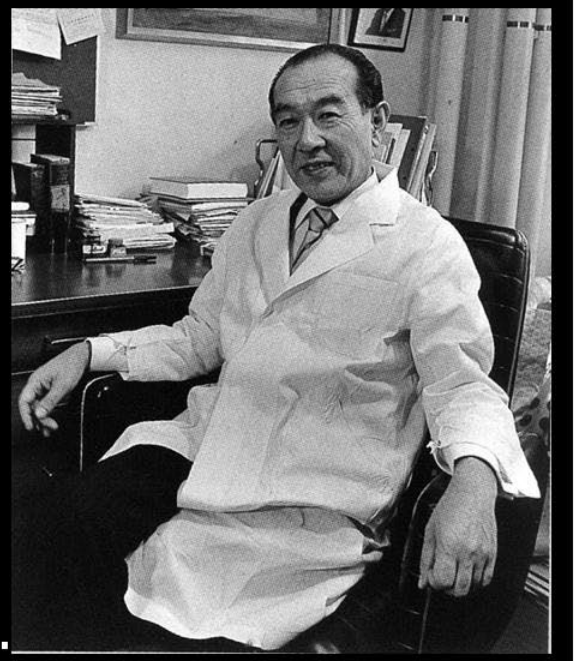


Em. Prof Yasuo Ihara
a preregistrant of BBAR

Brain Bank Committee, Jap. Soc. Neuropath.

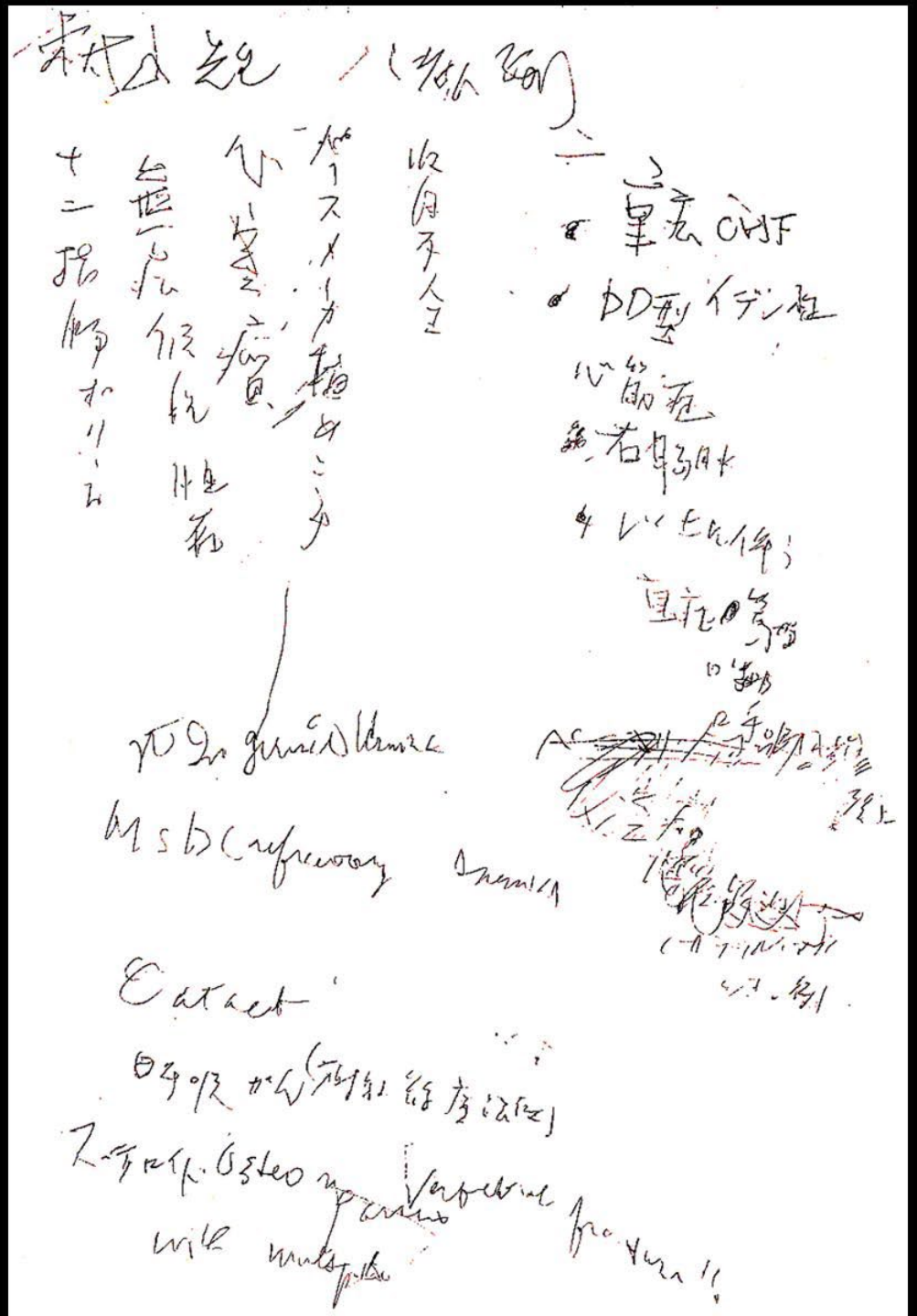
Brain Donation Program

Dr. Yasuo Toyokura



80y.o. +
Em. Pro. Univ. Tokyo
Em. Direc. TMGHIG
The first brain donor of BBAR
Death Note:
“Please use our body to conquer diseases that will kill me (and you cannot cure) .“

Donor Card



文部科学省科学研究費助成事業　学術変革領域研究「学術研究支援基盤形成」

コホート・生体試料支援プラットフォーム

・生体試料提供
・解析技術支援

English

支援の全体像 | 内容 | イベント情報 | 支援申請 | 支援の成果報告 | 成果論文リスト | お問い合わせ

Platform of Supporting Cohort Study and Biospecimen Analysis (CoBiA)

最新情報

- COVID-19克服に向けた研究に対する支援、またCOVID-19による研究の支障解消と加速化のための支援について

- 2022年度コホート・生体試料支援申請受付中
- 主要論文の解説文
- コホート研究「JACC Study」からの検体、情報提供のお知らせ

成果報告のご案内

当プラットフォームの支援を受けた科研費研究課題において成果論文を発表した際は、必ず当該年度末までに成果報告フォームより報告してください。成果論文の発表までに数年以上かかった場合でも、必ず報告してください。

あなたの発見をヒト試料で確かめませんか？

研究支援代表者
村上善則（東京大学）

コホートによる
バイオリソース支援活動
若井建志（名古屋大学）

JBBNNR
Shigeo Murayama
(Osaka University)

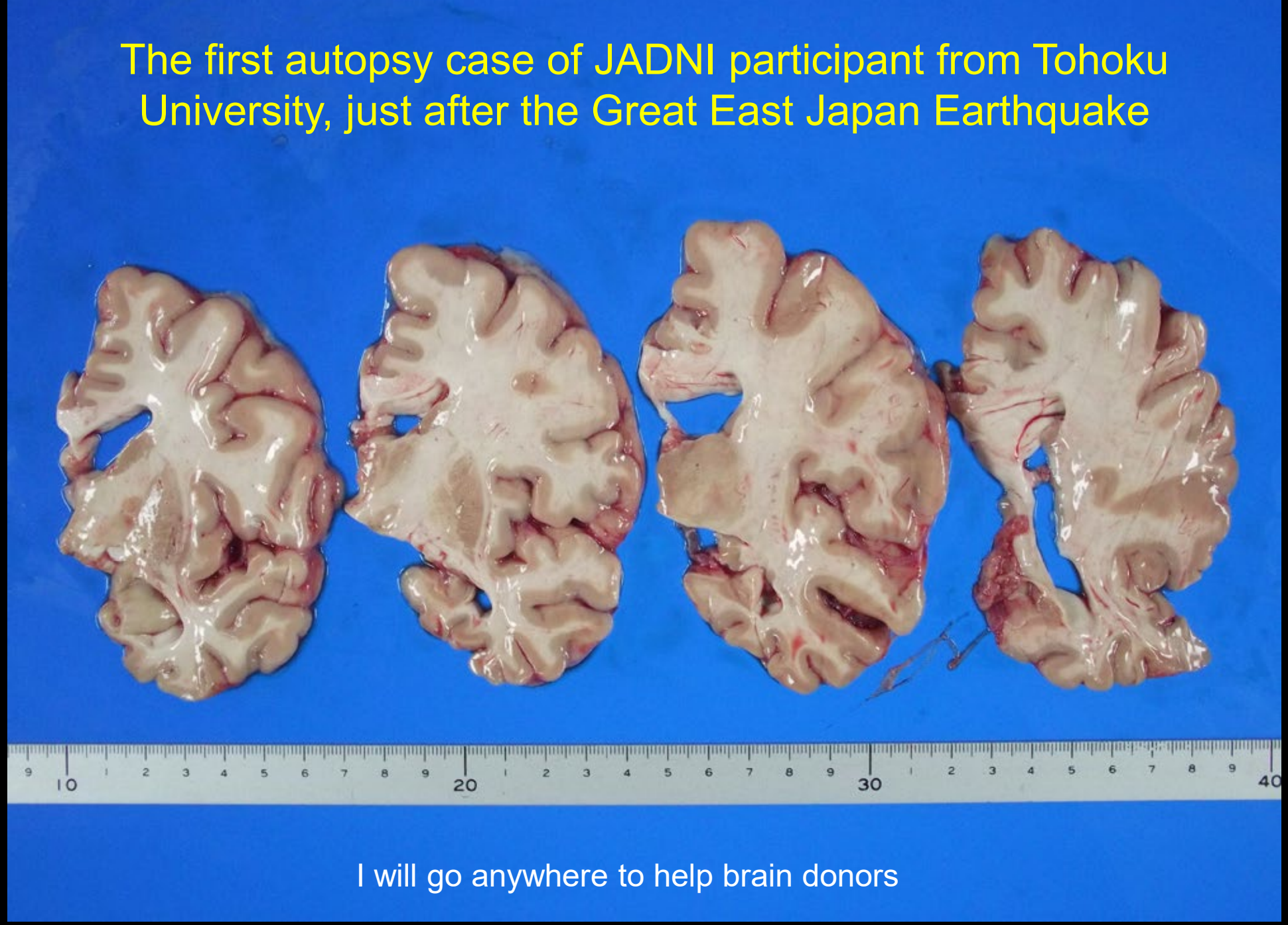
生体試料による支援活動
醍醐弥太郎（東京大学）

バイオメディカルデータ
解析支援活動
中杤昌弘（名古屋大学）

The Brain Bank Network

Institute	Clinician/ Pathologist	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Osaka Univ.	Mochizuki, H./ Murayama, S.					3	4	6	6	5	14
BBAR	Iwata, A./ Saito, Y.	63	39	39	45	64	52	39	36	36	34
NCNP	Takahashi, Y./ Takao, M.	10	10	11	9	13	18	24	14	22	20
Mihara	Mihara, B./ Takao, M.	29	26	15	19	23	16	19	33	18	12
Fukushimura	Kaneda, D./ Hashizume, Y.	36	31	27	25	25	21	25	33	40	23
NHO Toneyama	Inoue, K.							18	16	12	11
Tokushima, U.	Izumi, Y./ Tsuneyama, K.	1	3	5	10	4	12	4	5	3	3
Univ. Tokyo	Kubota, A./ Ikemura, M.	28	23	22	25	26	15	17	18	21	18
NCGM	Arai, T./ Igari, T.	23	16	17	27	17	17	9	9	7	12
NHO Tokyo	Komiya, T./	5	5	2	4	3	0	1	1	1	0
NHO Shizuoka	Obi, T.	1	2	2	4	6	6	4	2	1	6
Yokohama Rosai	Imafuku, I/ Kakuta, Y.	1	6	6	8	8	4	4	4	2	1
Kameda	Ando, T/ Takeuchi, R.	12	10	6	9	12	10(2)	10(2)	10(2)	5(4)	6
Kitazato Y.	Nishiyama, K./ Ichinohe, M.	7	9	5	4	2	6	6	1	1	2
Mita IUHW	Iwata, N./ Aida, S.	2	3	2	0	2	1	1	2	0	(1)
Kagawa U.	Kamada, M./ Ueno, M.	2	4	3	1	1	1	2	1	0	0
Toranomon	Uesaka, Y./ Ito, S.		3	1	2	2	3	1	8	2	6
Teikyo, U.	Sonoo, M./ Uozaki, H.	3	2	2	0	4	0	4	2	0	1
Tokyo Teishin	Shiio, Y./ Kishida, Y.	5	2	2	3	5	3	0	3	3(2)	7
Tokyo Medical U.	Aizawa, H./ Kuroda, M.				1	0	0	1	0	1	1
NHO E. Hiroshima	Watanabe, C./Tachiyama, Y				3	4	4	2	4	0	0
Osaka City Univ.	Ito, Y./ Osawa, M.			1	1	1	1	0	1	0	0
NHO Sagamihara	Hasegawa, I./ Yagishita, S.					8	10	18	18	17	8
NHO Okinawa	Suwazono, S./ Atami, E.				1	2	2	4	2	0	0
Open Resource		140	109	100	110	156	155	168	171	163	157
Inst. Collection （MEXT、AMED）		79	85	84	105	74	69	50	67	35	

The first autopsy case of JADNI participant from Tohoku University, just after the Great East Japan Earthquake



I will go anywhere to help brain donors

JSNP Brain Bank Committee (1986-)

Chair: Murayama, S. (UO)

- Adachi, T. (Tottori U.)
- Beck, G. (Neu. Osaka U.)
- Furuta T (Pat. Saga U.)
- Ikeuchi, K. (Genome. Niigata U.)
- Izumi Y. (Neu. Tokushima U)
- Ito, K. (NP. Kyoto Pr. U.)
- Inoue, Y. (Ethis, IMSUT)
- Iritani, S. (Psy. Nagoya U.)
- Oshima, K.（Psy. Matsuzawa H.）
- Kato, T. (Psy, Riken)
- Kaneda, D. (Fukushimura H.)
- Kunii, Y. (Psy. Fukushima)
- Komori, T. (NP. TMNH)
- Kowa, H.（Neu. Kobe U.）
- Saito, Y. (NP. TMGHIG)
- Shimizu, H. (NP. Niigata U.)
- Takao, M. (Lab. NCNP)
- Tanigawa, K. (Pat. Hokkaido U.)
- Taniguchi, D.（Neu. Juntendo U.）
- Tokumaru, A. (Rad. TMGHIG)
- Nishida, N. (For. Toyama U.)
- Nishimura, H.（Pat. Kawasaki U.)
- Hasegawa, M. (Bio. Ch, TMIMR)
- Inoue, K.（Toneyama H.)
- Matsumoto, H. (For. Osaka U.)
- Miki, Y (NP. Hirosaki U.)
- Yamada, M. (NP, Shinshu U.)
- Yokota, O. (Psy, Okayama U.)
- Yoshida, M. (NP, Aichi M. U.)

Case Reports from BBNDNPD

NEUROPATHOLOGY

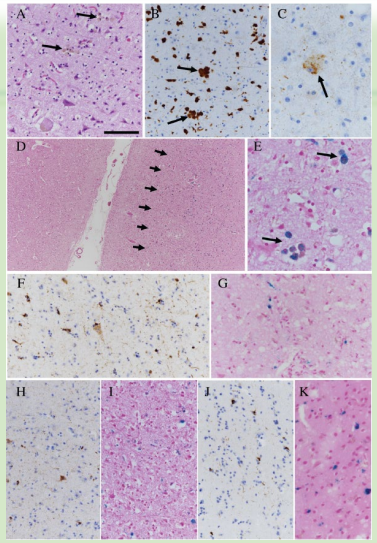
Neuropathology 2021 doi:10.1111/neup.12763

Case Report

Amyotrophic lateral sclerosis with speech apraxia, predominant upper motor neuron signs, and prominent iron accumulation in the frontal operculum and precentral gyrus

Tomoki T. Mitani,[1] Goichi Beck,[1] Kansuke Kido,[2] Rika Yamashita,[1] Yuki Yonenobu,[1] Takuya Ogawa,[1] Chizu Saeki,[1] Tatsusada Okuno,[1] Seiichi Nagano,[1] Eiichi Morii,[2] Masato Hasegawa,[3] Yuko Saito,[4] Shigeo Murayama[1,4,5] and Hideki Mochizuki[1]

Departments of [1]Neurology, [2]Pathology, Osaka University Graduate School of Medicine, [5]Brain Bank for Neurodevelopmental, Neurological and Psychiatric Disorders, Molecular Research Center for Children's Mental Development, United Graduate School of Child Development, Osaka University, Suita, [3]Dementia Research Project, Tokyo Metropolitan Institute of Medical Science and [4]Department of Neurology and Neuropathology (Brain Bank for Aging Research), Tokyo Metropolitan Geriatric Hospital and Institute of Gerontology, Tokyo, Japan



ALS Bank: Osaka Univ., Toneyama & BBAR

NEUROPATHOLOGY

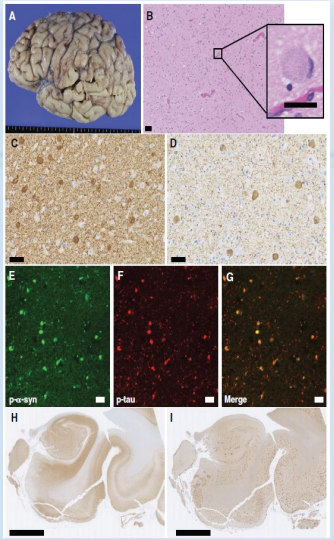
Neuropathology 2022 doi:10.1111/neup.12786

Case Report

An autopsy case of Alzheimer's disease with amygdala-predominant Lewy pathology presenting with frontotemporal dementia-like psychiatric symptoms

Goichi Beck,[1] Kazue Shigenobu,[2] Koto Ukon,[3] Rika Yamashita,[1] Yuki Yonenobu,[1] Eiichi Morii,[3] Masato Hasegawa,[4] Manabu Ikeda,[5] Shigeo Murayama[1,6,7] and Hideki Mochizuki[1]

Departments of [1]Neurology, [3]Pathology, [5]Psychiatry, Osaka University Graduate School of Medicine, [6]Brain Bank for Neurodevelopmental, Neurological and Psychiatric Disorders, Molecular Research Center for Children's Mental Development, United Graduate School of Child Development, Osaka University, Suita, [2]Department of Psychiatry, Asakayama General Hospital, Sakai, [4]Dementia Research Project, Tokyo Metropolitan Institute of Medical Science and [7]Department of Neurology and Neuropathology (Brain Bank for Aging Research), Tokyo Metropolitan Geriatric Hospital and Institute of Gerontology, Tokyo, Japan



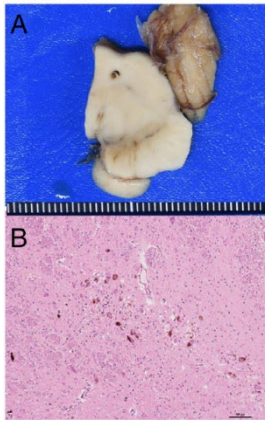
Asakayama Hospital
FTLD Regisitry

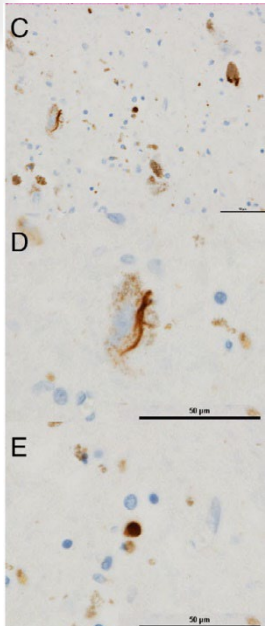
LETTERS: NEW OBSERVATION

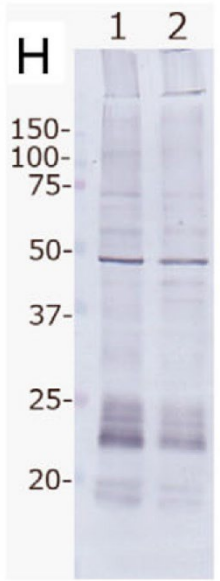
TDP-43 Proteinopathy Presenting with Typical Symptoms of Parkinson's Disease

National Hospital Oraganization
Osaka Toneyama Medical Center

The first autopsy case of pure sporadic TDP 43 proteinopathy type A with clinical diagnosis of Parkinson disease







pTDP-43(pS409/410)
1 anterior cingulate gyrus
2 substantia nigra

Movement Disorders 2022

Press Release, Asahi and NHK by Lec. Goichi Beck

Higashihara M.

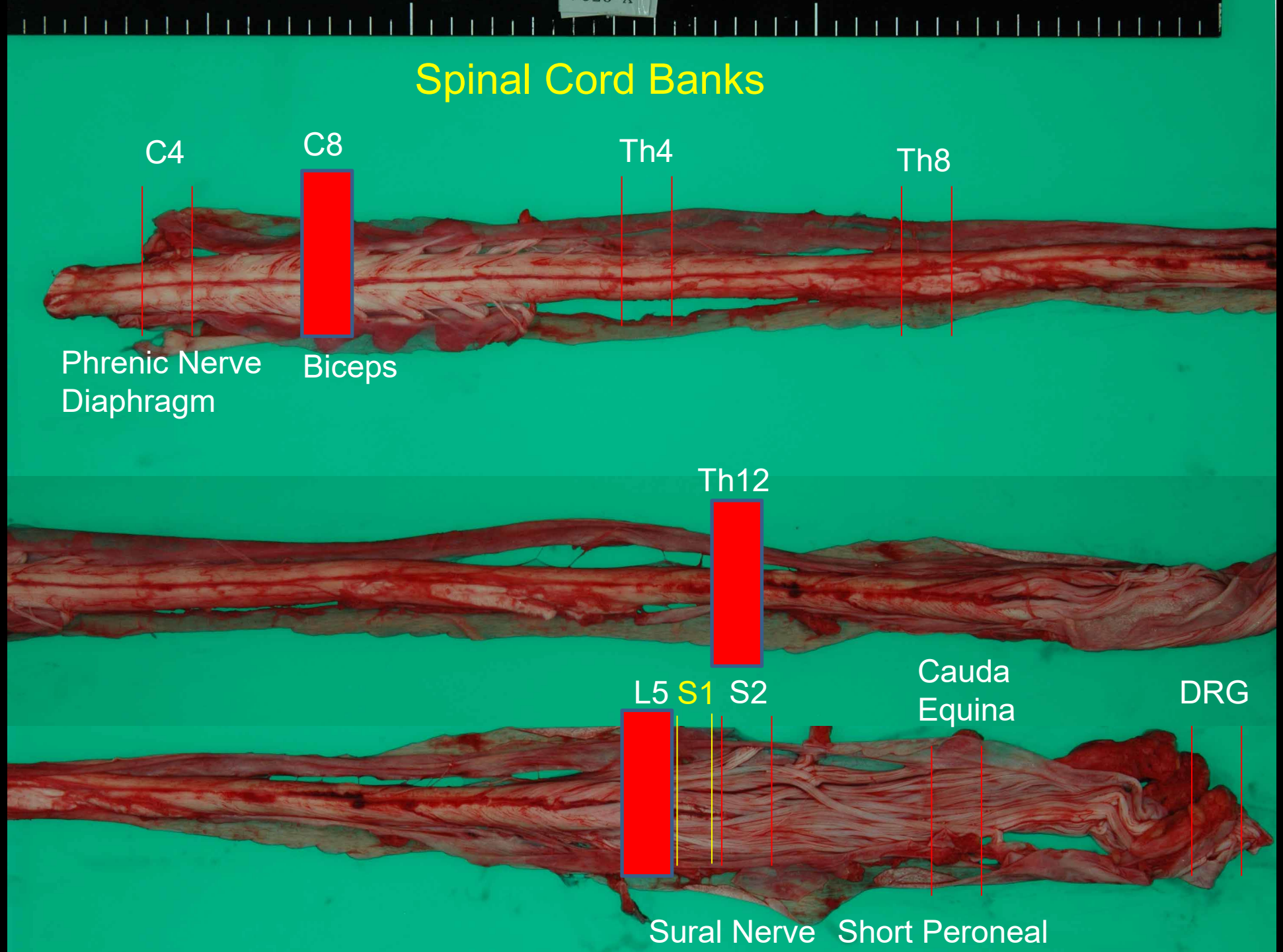
54 ALS/ MND Brain and Spinal Cord Resource (300 frozen control spinal cord) in 506 JaCALS registrants

Matsubara,, T.

ALS/MND Sym @Perth 2019

Westmead detecting upper motor neuron sigh for early diagnosis of ALS

Index			Clinical data							Grade at first visit		Neuronal loss/Degeneration				TDP-43 pathology										Other pathological data				
No	Clinical Diagnosis (First visit)	Clinical Diagnosis (Last visit)	Age at Death	Sex	Site of Onset	dementia	Duration from onset to diagnosis (month)	Duration from onset to TPPV (month)	Duration from onset to death (month)	Updated Awaji	rEEC	PMC	pyramidal tract	XII	SC	BS	Nishihira-Takeuchi	PMC	XII	SC	IO	RF	RN	PF	Striatum	DG	Hp	EC	Braak SP Stage	Braak NFT Stage	Saito AGD Stage	BBAR Lewy Stage	Brain Weight (g)
1	PMA	PMA	66	M	U	0	6	-	36	Not Applicable	Not Applicable	1	2	2	3	2	1	2	3	5	2	3	0	0	0	0	0	0	0	1	0	0	1,150
2	PMA	PMA	76	M	U	0	7	-	65	Not Applicable	Not Applicable	1	1	3	3	2	1	2	4	5	2	4	1	0	0	0	0	0	0	1	0	0	1,400
3	PMA	PMA	74	F	L	0	60	-	228	Not Applicable	Not Applicable	1	3	2	3	Not Applicable	Not Applicable	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	1,100
4	PMA	ALS-possible	84	M	U	0	5	-	37	Not Applicable	Not Applicable	1	1	2	2	2	1	2	3	4	1	3	NA	0	0	0	0	0	1	2	0	1	1,363
5	PMA	ALS	70	M	U	1	10	-	35	Not Applicable	Not Applicable	1	2	3	2	4	2B	4	5	5	4	4	5	5	6	5	2	6	0	1	0	0	1,330
6	ALS-possible	ALS-possible	68	M	T, U	0	3	-	9	Possible	Possible	1	2	1	2	2	1	3	4	5	2	4	2	0	1	0	0	0	0	1	0	0	1,410
7	ALS-possible	ALS-possible	82	M	B	0	16	-	26	Possible	Possible	1	2	3	2	4	2A	3	3	4	1	4	4	4	4	3	2	5	1	2	1	0	1,360
8	ALS-possible	ALS-possible	64	M	B	0	3	-	30	Possible	Possible	1	1	3	2	3	1	3	3	3	2	4	2	NA	3	0	0	0	1	1	0	0	1,450
9	ALS-possible + PD	ALS + PD	80	F	U	0	7	-	39	Possible	Possible	3	3	2	3	3	1	4	1	4	3	3	3	0	3	0	0	0	0	1	0	3	1,280
10	ALS-possible (UMN sign predominant)	ALS	61	F	B	0	7	-	38	Possible	Possible	2	2	3	2	4	2A	6	3	5	2	5	5	2	3	2	2	3	1	1	0	2	1,400
11	ALS-possible (UMN sign predominant)	ALS	81	M	B	0	15	-	48	Possible	Possible	2	2	2	2	2	1	5	4	4	2	5	3	0	2	0	0	0	1	2	0	0	1,090
12	ALS-probable labolatory supported	ALS	86	M	U	0	11	-	14	Probable-laboratory-supported	Probable-laboratory-supported	1	2	3	2	3	1	5	5	5	1	5	3	0	3	0	0	0	1	2	3	0	1,235
13	ALS-probable labolatory supported	ALS	78	M	L	0	12	-	16	Probable-laboratory-supported	Probable-laboratory-supported	1	2	2	2	2	1	3	5	5	1	5	0	0	NA	0	0	0	0	1	0	0	1,260
14	ALS-probable labolatory supported	ALS	59	M	L	0	13	-	65	Probable-laboratory-supported	Probable-laboratory-supported	1	3	2	3	4	2B	5	6	5	6	6	5	NA	6	5	5	5	1	1	0	0	1,340
15	ALS-probable + PSP	ALS + PSP	81	M	U	1	1	-	5	Probable	Probable	1	1	2	2	4	2A	3	4	5	2	3	2	NA	6	5	5	5	0	1	0	0	1,240
16	ALS-probable	ALS	76	M	B	0	6	-	7	Probable	Probable-laboratory-supported	2	2	1	1	4	2A	5	4	4	2	4	2	NA	3	5	4	5	1	2	2	1	1,440
17	ALS-probable	ALS	80	F	B	1	2	-	10	Probable	Probable	2	3	1	2	4	2B	6	3	6	2	3	2	5	6	5	3	6	0	1	0	0	1,085
18	ALS-probable + PD	ALS +PD	68	M	U	0	6	-	13	Probable	Probable	2	3	2	3	2	1	3	5	4	2	3	0	0	0	0	0	0	1	1	0	3	1,270
19	ALS-probable	ALS	62	M	U	1	14	-	14	Probable	Probable	2	3	3	2	4	2B	5	2	5	4	5	4	5	3	5	2	5	0	1	0	0	1,250
20	ALS-probable	ALS	67	M	L	0	4	-	14	Probable	Probable	2	3	2	2	3	1	5	5	4	2	3	1	0	3	0	0	0	2	1	0	0	1,373
21	ALS-probable	ALS	72	F	L	0	7	-	16	Probable	Probable	2	3	3	3	4	2A	6	5	5	3	5	4	3	5	5	3	5	1	1	0	0	1,330
22	ALS-probable + PD	ALS + PD	69	F	U	0	3	-	17	Probable	Probable	2	3	2	2	4	2A	6	5	6	3	5	5	2	4	5	3	5	1	1	2	3	1,380
23	ALS-probable	ALS	73	F	L	0	4	-	20	Probable	Probable	2	3	3	3	3	1	5	5	5	4	5	4	2	2	0	0	0	1	1	1	0	1,240
24	ALS-probable	ALS	55	F	B	1	4	-	37	Probable	Possible	2	3	3	3	4	1	5	4	5	5	5	5	2	4	0	0	2	0	0	0	0.5BS	1,450
25	ALS-probable	ALS	80	M	U	1	10	-	60	Probable	Probable	1	2	2	3	4	2A	3	3	5	2	3	2	5	6	5	3	6	0	2	1	1	1,500
26	ALS-definite	ALS	73	M	L	1	7	-	8	Definite	Definite	1	2	3	1	4	2A	3	1	5	2	3	0	2	3	2	2	4	1	1	0	0	1,110
27	ALS-definite	ALS	60	M	U	0	7	-	9	Definite	Definite	2	3	2	3	2	1	5	6	5	3	3	3	NA	0	0	0	0	1	1	0	0	1,485
28	ALS-definite	ALS	77	F	B	1	9	-	12	Definite	Definite	1	2	2	2	4	2A	5	5	5	3	4	5	2	5	4	3	3	0	2	2	0	1,100
29	ALS-definite	ALS	80	F	B	1	12	-	13	Definite	Definite	1	3	3	2	4	2B	5	3	5	5	4	5	4	6	5	4	5	3	3	3	0	1,050
30	ALS-definite	ALS	80	F	B	1	10	-	17	Definite	Definite	2	3	3	2	3	1	5	2	5	2	2	2	0	3	0	0	0	1	3	0	0	1,093
31	ALS-definite	ALS	60	M	U	0	9	-	21	Definite	Definite	2	3	3	3	4	2A	5	5	5	3	5	5	5	3	2	3	5	0	1	0	0	1,280
32	ALS-definite	ALS	75	M	B	0	7	-	22	Definite	Definite	2	2	3	3	4	2A	4	3	4	3	4	5	5	3	4	2	4	0	1	0	0	1,425
33	ALS-definite	ALS	45	M	U	0	240	-	264	Definite	Definite	3	3	3	3	1	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1,470
34	ALS-possible	ALS with TPPV	81	F	B	0	8	43	76	Possible	Possible	2	3	3	3	4	2A	4	2	4	2	3	2	0	3	2	0	2	0	1	0	0	1,165
35	ALS-possible	ALS with TPPV	71	M	U	0	56	66	146	Possible	Possible	3	3	3	3	3	1	4	1	3	3	3	1	0	3	0	0	0	1	1	0	0	1,120
36	ALS-probable labolatory supported	ALS with TPPV	63	M	L	0	15	15	36	Probable-laboratory-supported	Probable-laboratory-supported	2	3	3	3	4	2A	5	0	5	3	2	5	5	NA	4	3	3	1	1	0	0	1,410
37	ALS-probable labolatory supported	ALS with TPPV	60	M	U	TLS	7	14	162	Probable-laboratory-supported	Probable-laboratory-supported	3	3	3	3	4	2A	2	1	1	5	3	2	5	6	5	4	5	0	1	0	0	790
38	ALS-probable	ALS with TPPV	73	M	B	0	49	72	103	Probable	Possible	3	3	3	3	3	1	5	1	3	3	3	3	3	3	0	0	0	0	1	0	0.5Ob	1,310
39	ALS-probable	ALS with TPPV	67	M	U	0	17	53	141	Probable	Probable-laboratory-supported	3	3	3	3	4	2A	4	1	3	3	3	2	2	4	3	2	4	1	1	0	2	1,210
40	ALS-probable	ALS with TPPV	69	M	U	0	62	90	113	Probable	Probable	3	3	3	3	2	1	3	1	5	3	3	2	1	1	0	0	0	0	1	0	0	1,610
41	ALS-probable	ALS with TPPV	74	M	B	1	35	38	75	Probable	Probable	3	3	3	3	4	2A	4	2	4	4	5	3	3	4	2	2	4	1	1	0	0	1,010
42	ALS-definite	ALS with TPPV	60	M	B	0	13	20	29	Definite	Definite	3	3	3	1	3	1	5	3	5	3	4	5	0	3	0	0	0	0	1	0	0	1,240
43	ALS-definite	ALS with TPPV	69	M	R	0	13	47	66	Definite	Definite	1	2	3	3	3	1	4	2	4	1	3	3	0	3	0	0	0	0	1	0	0.5SY	1,280
44	PLS	ALS	45	M	L	0	42	-	103	Possible	Possible	3	3	2	3	3	1	5	1	3	3	4	1	0	3	0	0	0	0	0	0	0	1,515
45	ALS with agenesis of corpus callosum	ALS with agenesis of corpus callosum	68	M	B	0	9	-	28	Probable	Probable	1	1	3	2	3	1	3	4	3	3	5	2	0	3	0	0	0	0	1	0	0	1,410
46	ALS12	ALS with TPPV	80	M	L	1	13	19	46	Not Applicable	Not Applicable	2	2	2	3	Not Applicable	1	5	5	5	1	3	3	0	0	0	0	4	2	3	2	0.5Ob	1,390
47	ALS1	ALS1	77	M	L	0	6	-	78	Not Applicable	Not Applicable	1	1	2	3	Not Applicable	Not Applicable	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1,440


Spinal Cord Banks
C4
C8
Th4
Th8
Phrenic Nerve
Diaphragm
Biceps
Th12
L5
S1
S2
Cauda
Equina
DRG
Sural Nerve
Short Peroneal

The Brain Bank for Aging Research (BBAR)

Tokyo Metropolitan Geriatric Hospital & Institute of Gerontology

Brain Bank is a movement conducted by patients, doctors and researchers, to conquer intractable neuro- psychiatric disorders.

Kazutomo Imahori,
(brain donor)

The Brain Bank for Aging Research (BBAR)

TMGHIG

Resources consisting of consecutive autopsy cases from a general geriatric hospital & all Japan depository of rare neurological and developmental disorders (http://www.mci.gr.jp/BrainBank)

In House Cohort Resource

1. Paraffin blocks and glass slides (1972.5–)
   for Clinical, Radiological and Pathological Research 7418
   >2. Frozen neocortex and body tissues (1995.1–)
   for Molecular Research: 2,415
   >3. Frozen half brains (2001.7–)
   for Neuroscience Research: 1,102
2. All Japan Neurological and Developmental Depository 120

In collaboration with Brain Bank for Neurodevelopmental, Neurological and Psychiatric Disorders (BBNNPD)

BBAR Resource Center

- A full time coordinator.
- All BBAR records stored in our digital clinical chart system with Brain Bank ID.
- BBAR Resource Center:
  24 deep freezers, including one for a national prion back- up bank

- >7000 case paraffin blocks
- BBAR Data Center: a virtual slide system for educational output.
- BBAR Internet Conference Room
  with Osaka U., Toneyama and Fukushimura

Brain Bank Registrants BBAR (Aug. 2021) : (Preregistrants: 203)

No.	Age	Gen.	Dix	Con.	Place of death/ auto.
1	80	M	Heart	S	TMGHIG
2	83	M	FAD	F	Body transfer
3	79	F	FAD	F	Brain transfer
4	69	F	CBD-PNFA/ TDP-43 type A	F	Body transfer
5	86	F	AD	F	Brain transfer
6	91	M	AD/CAA/DG/ HS-TDP-43	S	Body transfer
7	84	F	PSP	S	Body Transfer
8	89	F	(Colon Ca)	S	TMGHIG
9	84	M	CVD	F	TMGHIG
10	86	M	AD	F	TMGHIG
11	88	F	DLB	F	Body transfer
12	93	F	PD	S	TMGHIG
13	99	F	DLB	F	Body transfer
14	73	M	(肺癌)	F	Body transfer
15	111	F	NFTD	F	Body transfer
16	90	F	AD	F	Body transfer
17	97	M	NFTD/ PSP/LBD/DG	F	Body transfer
18	72	M	CVD	F	Body transfer
19	61	M	Encephalit.	F	Body transfer
20	79	M	CJD	F	Body transfer
21	83	M	Malignant ly.	F	Body transfer
22	95	F	iNPH	F	Body transfer
23	80	F	ALS	F	TMGHIG
24	78	F	PSP	F	Body transfer
25	74	M	LBD	F	Body transfer
26	79	M	AD	F	Body transfer
27	91	F	AD	F	Body transfer

No.	年齢	性別	Dix	同意	死亡場所・剖検施設
28	83	F	PSP	F	Body transfer
29	90	F	AD	S	Body transfer
30	87	F	AD	F	Body transfer
31	95	M	AGD	S	Body transfer
32	85	M	AGD	F	Body transfer
33	80	F	ALS	F	Body transfer
34	80	M	SMA	F	Body transfer
35	70	F	PSP	F	Body transfer
36	68	M	CBD	F	Body transfer
37	84	M	ALS	S	Body transfer
38	69	M	PSP	S	Brain transfer
39	86	M	PDD	F	Body transfer
40	93	M	PSP	F	Brain transfer
41	87	F	Early AD	S	Body transfer
42	77	F	AD	F	Body transfer
43	86	M	DLB/AD	F	Body transfer
44	80	M	AD/AGD	F	Body transfer
45	83	F	PSP	F	Body transfer
46	68	M	PSP	F	Body transfer
47	78	M	PSP	F	Body transfer
48	102	F	(Influ.)	F	Body transfer
49	69	M	CVD	F	Brain trasfer
50	83	F	AD/DLB	F	Body transfer
51	63	M	Cereb. Con.	F	Body transfer
52	86	M	FTLD-TDP typeC	F	Body transfer
53	89	F	CJD	F	Body transfer
54	94	M	eAD/AGD	F	Body transfer

No.	年齢	性別	Dix	同意	死亡場所・剖検施設
55	44	M	SPG11	F	Body transfer
56	78	F	AGD	F	Body transfer
57	85	M	CJD MV1	S	Body transfer
58	85	M	(renal Ca)	S	Body transfer
59	61	M	ALS	S	Brain transfer
60	86	M	(Lung Ca)	F	Body transfer
61	82	F	(CVD)	F	TMGHIG
62	85	F	PSP	F	Body transfer
63	92	M	AD	F	Body transfer
64	61	F	fCJD	F	Body transfer
65	85	F	CJD/PD	F	Body transfer
66	82	F	PSP	F	Body transfer
67	49	F	NMO	F	Body transfer
68	82	F	PSP	F	Body transfer
69	72	M	AD	F	Body transfer
70	41	F	SCA1	F	Body transfer
71	83	M	AD	F	Body transfer
72	92	M	AD	F	Body transfer
73	91	F	AD	F	TMGHIG
74	63	F	Tauopathy	F	Body transfer
75	85	M	SCA6	S	Body transfer
76	82	M	AD	S	Body transfer
77	57	M	CJD	F	Body transfer
78	86	M	Y-10227 (pending)	F	Body transfer
79	65	F	Y-10231 (pending)	F	Body transfer

2021 Collaboration

	PI	Institute	Research theme
1	Ikeuchi, K.	NIBR	apoE4 and aging brain
2	Kuwano, R.	NIBR	miRNA editing in Alzheimer brain
3	Toda, T.	Kobe Univ.	Genomic pathology of neurological disease
4	Nishimura, M.	Mol. Neurosci. Shiga Med. Univ.	Novel protein in human aging
5	Hasegawa, M.	Tokyo Metro. Inst. Med. Sci.	CSF early biomarker of AD
6	Ono, M.	Pharm. Shiga Med. Univ.	Estrogen receptor in AD
7	Hisanaga, S.	Tokyo Metro. Univ.	Tau phosphorylation in tauopathy
8	Takahashi, Y.	Neurol. NCNP	Immunocytochemistry of ALS
9	Yamanaka, K.	Enviro. Res. Nagoya Univ.	Novel biomarker in neurodegeneration
10	Ito, M.	TMGHIG	SiRNA in argyrophilic grain disease
11	Okamura, N.	Tohoku Pharm. Univ.	Pet ligand for tau and alpha- synuclein
12	Miyasaka, T.	Life Sci. Doshisha Univ.	Imaging mass spectroscopy of human brain
13	Tanaka, M.	Riken	DISC1 and neurodegeneration
14	Tsuji, S.	Neurol. UT	Genomic screening in neurodegeneration
15	Ishikawa, K.	Neurol. TMDU	Genomic screening of ACA
16	Iwata, A.	Neurol. UT	Epigenetics of ALS
17	Tokumaru, A.	Raidiol. TMGHIG	White matter change in MRI
18	Hattori, N.	Neurol. Junten. Univ.	Genomic screening of PD
19	Kwak, S.	Neurol. UT	RNA editing in ALS
20	Kubo, S.	Neurol. Junten. Univ.	Back ground pathology of early LBD
21	Okazawa, H.	Neuropath. TMDU	Proteomic analysis of neurodeneratiion.
22	Kokubo, Y.	Mie Univ.	ALS/PDC Kii
23	Higuchi, M.	NIRS	alpha- synuclein ligand
24	Honma, N.	Patho. Toho Univ.	Estrogen receptor in AD
25	Hashimoto, Y.	Fukushima Med. Univ.	Glycosylation in AD
26	Sengoku, R.	Neurol. TMGHIG	Pathology of olfactory plate
27	Hashimoto, K.	Psy. Res. Cntr. Chiba Univ.	Lipid metabolism in PD
28	Saito, Y.	Life Sci. Doshisha Univ.	anti- oxidant DJ1 in LBD
29	Kato, T.	Riken	Neuropathology of depression
30	Nagata, N.	Animal Radiol. UT	L-PGDS in NPH
31	Kabuta, T.	NCNP	Chaperone- mediated autophagy
32	Sato, N.	NCGG	DM and demntia
33	Ri, M.	Juntendo Univ.	*CHCHD2* gene in neurodegeneration
34	Ishii, K.	Pet Center TMGHIG	Neuropathology of tau imaging
35	Imaizumi, K.	Hiroshima Univ.	ER stress
36	Nagai, Y.	Osaka Univ.	exome analysis of in vivo proteostasis
37	Araki, I.	NCNP	BACE1 and synapse degeneration in AD
38	Yamagoshi, T.	NCGG	Salivary gland in aging
39	Kameyama, A.	AIST	Glycomics in aging
40	Ishigami, A.	TMGHIG	Citrulinated protein as an early biomarker of AD
41	Suhara, T.	NIRS	Dynamic pathology of amyloid- negative dementia
42	Ishiura, H.	Neurol. UT	High grade genome study of neurodegeneration

2021 publication

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9. Kumutpongpanich T, Ogasawara M, Ozaki A, Ishiura H, Tsuji S, Minami N, Hayashi S, Noguchi S, Iida A, Nishino I, Group OLS, Mori-Yoshimura M, Oya Y, Ono K, Shimizu T, Kawata A, Shimohama S, Toyooka K, Endo K, Toru S, Sasaki O, Isahaya K, Takahashi MP, Iwasa K, Kira JI, Yamamoto T, Kawamoto M, Hamano T, Sugie K, Eura N, Shiota T, Koide M, Sekiya K, Kishi H, Hideyama T, Kawai S, Yanagimoto S, Sato H, Arahata H, Murayama S, Saito K, Hara H, Kanda T, Yaguchi H, Imai N, Kawagashira Y, Sanada M, Obara K, Kaido M, Furuta M, Kurashige T, Hara W, Kuzume D, Yamamoto M, Tsugawa J, Kishida H, Ishizuka N, Morimoto K, Tsuji Y, Tsuneyama A, Matsuno A, Sasaki R, Tamakoshi D, Abe E, Yamada S, Uzawa A: Clinicopathologic Features of Oculopharyngodistal Myopathy With LRP12 CGG Repeat Expansions Compared With Other Oculopharyngodistal Myopathy Subtypes. JAMA neurology 2021, 78:853-63.
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17. Sakaue S, Kanai M, Tanigawa Y, Karjalainen J, Kurki M, Koshiba S, Narita A, Konuma T, Yamamoto K, Akiyama M, Ishigaki K, Suzuki A, Suzuki K, Obara W, Yamaji K, Takahashi K, Asai S, Takahashi Y, Suzuki T, Shinozaki N, Yamaguchi H, Minami S, Murayama S, Yoshimori K, Nagayama S, Obata D, Higashiyama M, Masumoto A, Koretsune Y, FinnGen, Ito K, Terao C, Yamauchi T, Komuro I, Kadowaki T, Tamiya G, Yamamoto M, Nakamura Y, Kubo M, Murakami Y, Yamamoto K, Kamatani Y, Palotie A, Rivas MA, Daly MJ, Matsuda K, Okada Y: A cross-population atlas of genetic associations for 220 human phenotypes. Nat Genet 2021, 53:1415-24.
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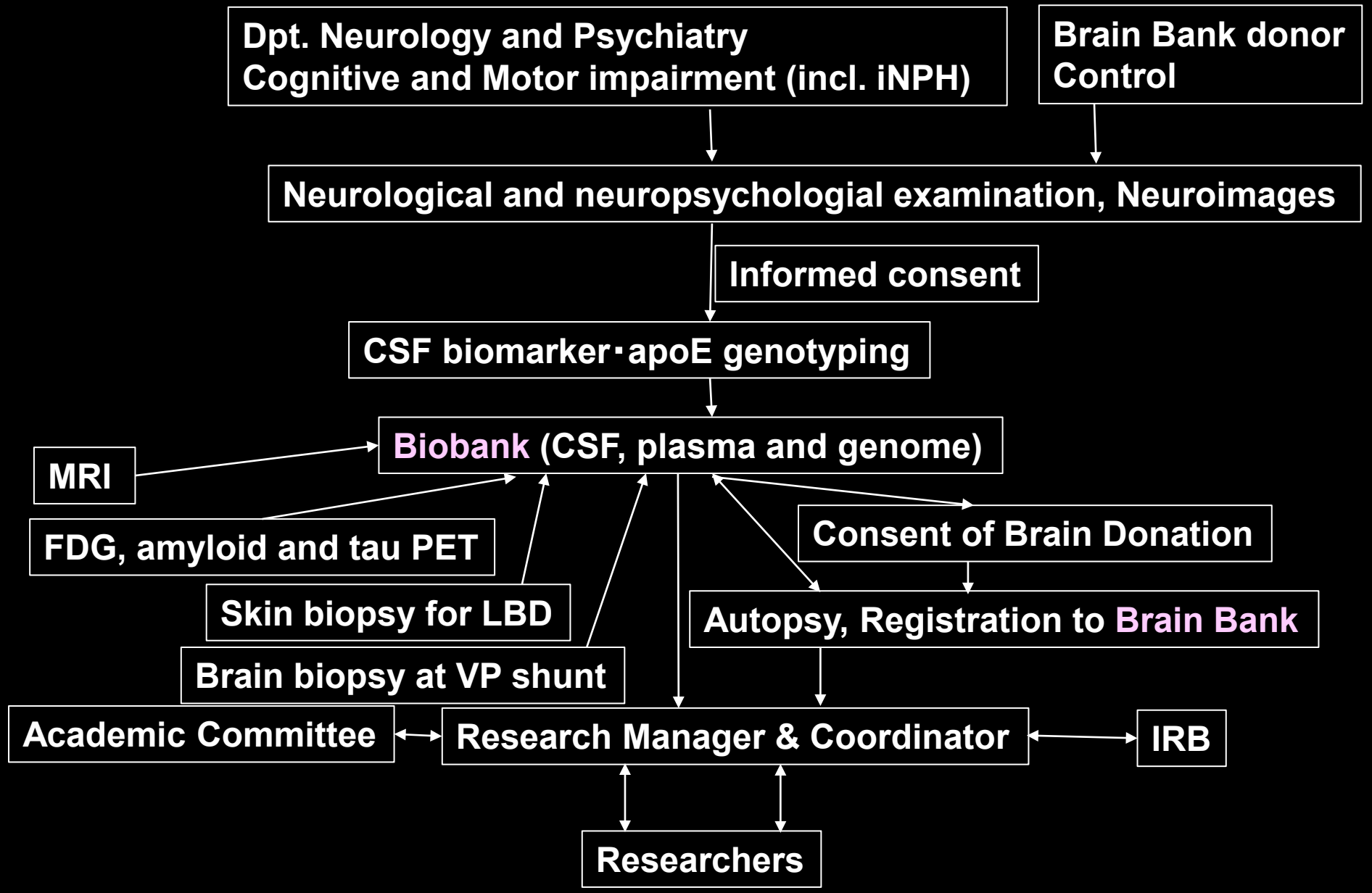
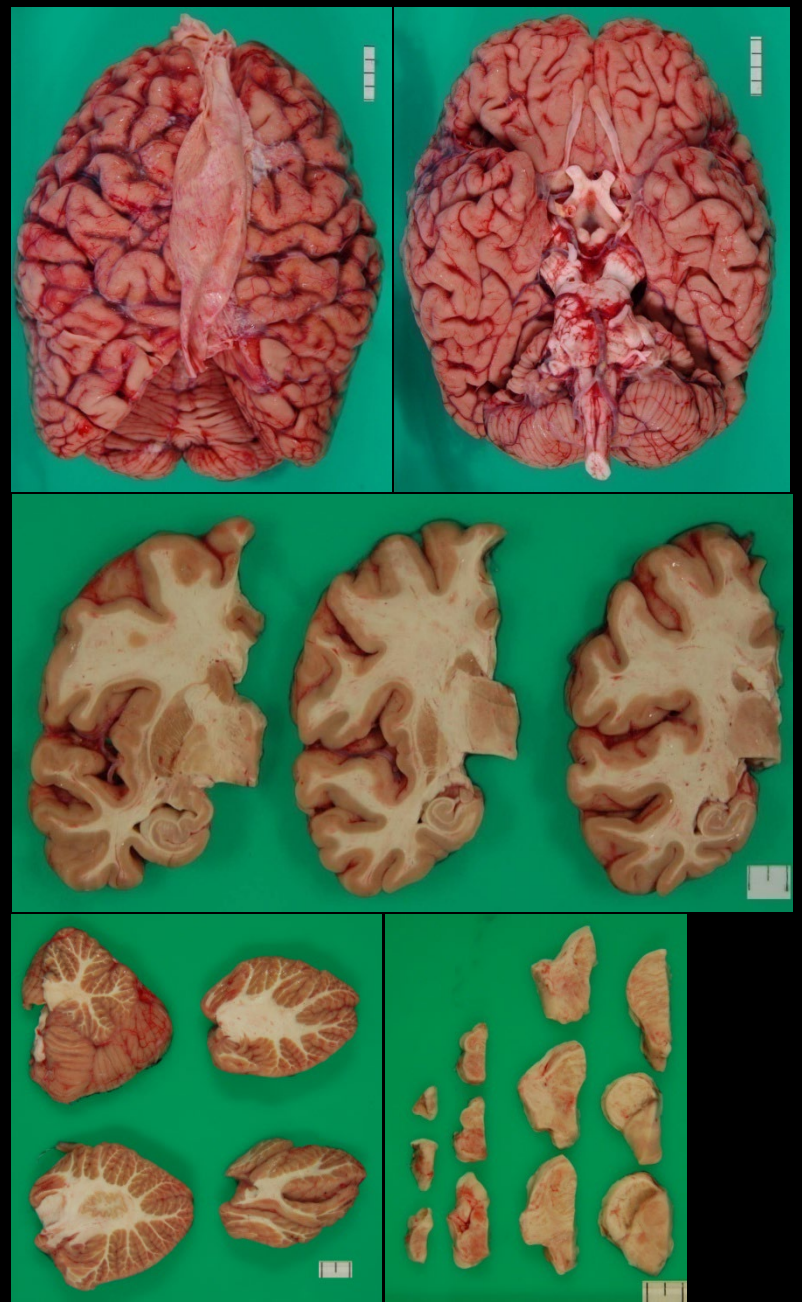
Brain Bank Project



Autopsy of Brains

- Each case is handled by an attending brain bank doctor (neuropathologist) and a technician (specially trained), in collaboration with an attending general pathologist and two technicians.
- The attending brain bank doctor determines the frozen side.
- The doctor forms 8mm-thick serial coronal slices of the brain, 5mm- thick serial sagittal slices of the cerebellum and 5mm- thick axial slices of the brain stem.
- The technician takes photos and freezes tissues immediately.

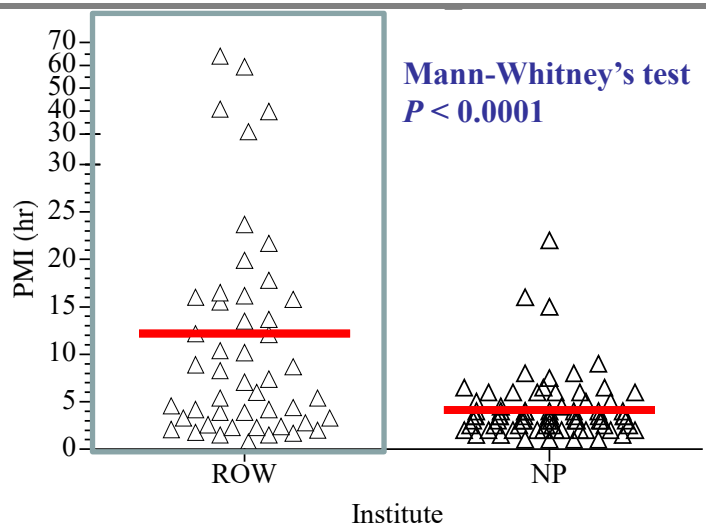


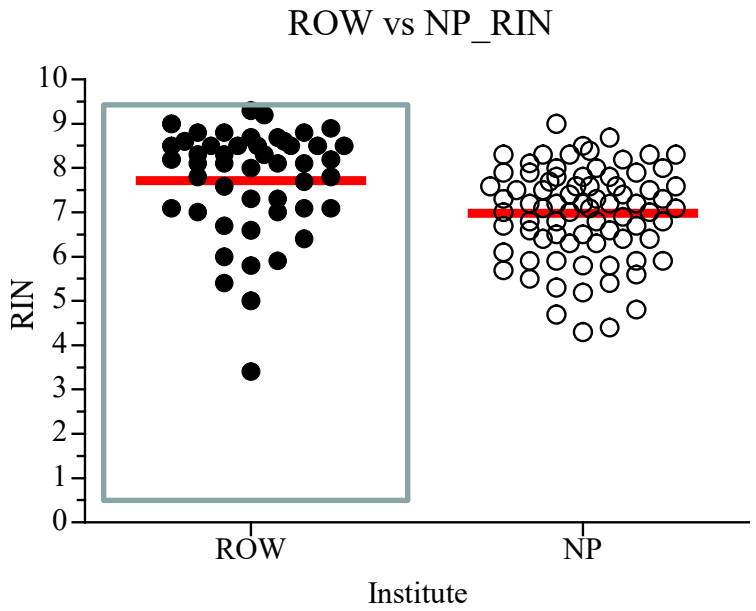
Total RNA Quality Check (Dpt. Mol. Biol. Niigata Univ. BRI)

DNA & RNA Back Up

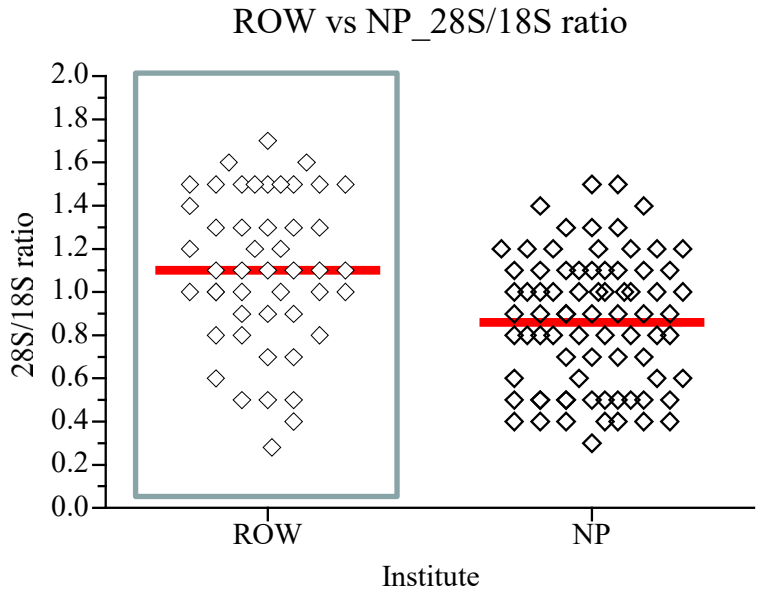
BBAR (N=48: ROW) vs Control (N=78: NP)

RNA Quality of BBAR is better than rapid autopsy control, probably due to a very short cooling interval (interval between death and transfer to a refrigerator).





Mann-Whitney's test, $P < 0.0001$

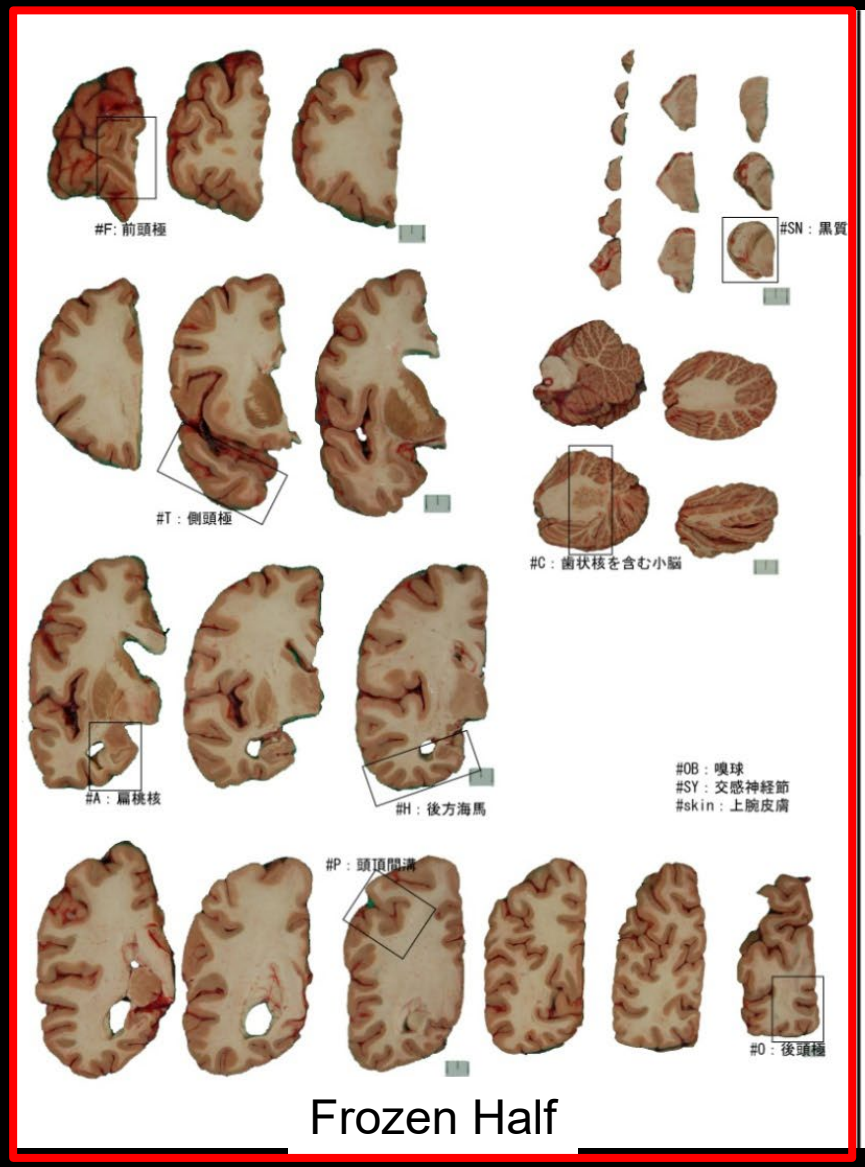


Mann-Whitney's test, $P = 0.0002$

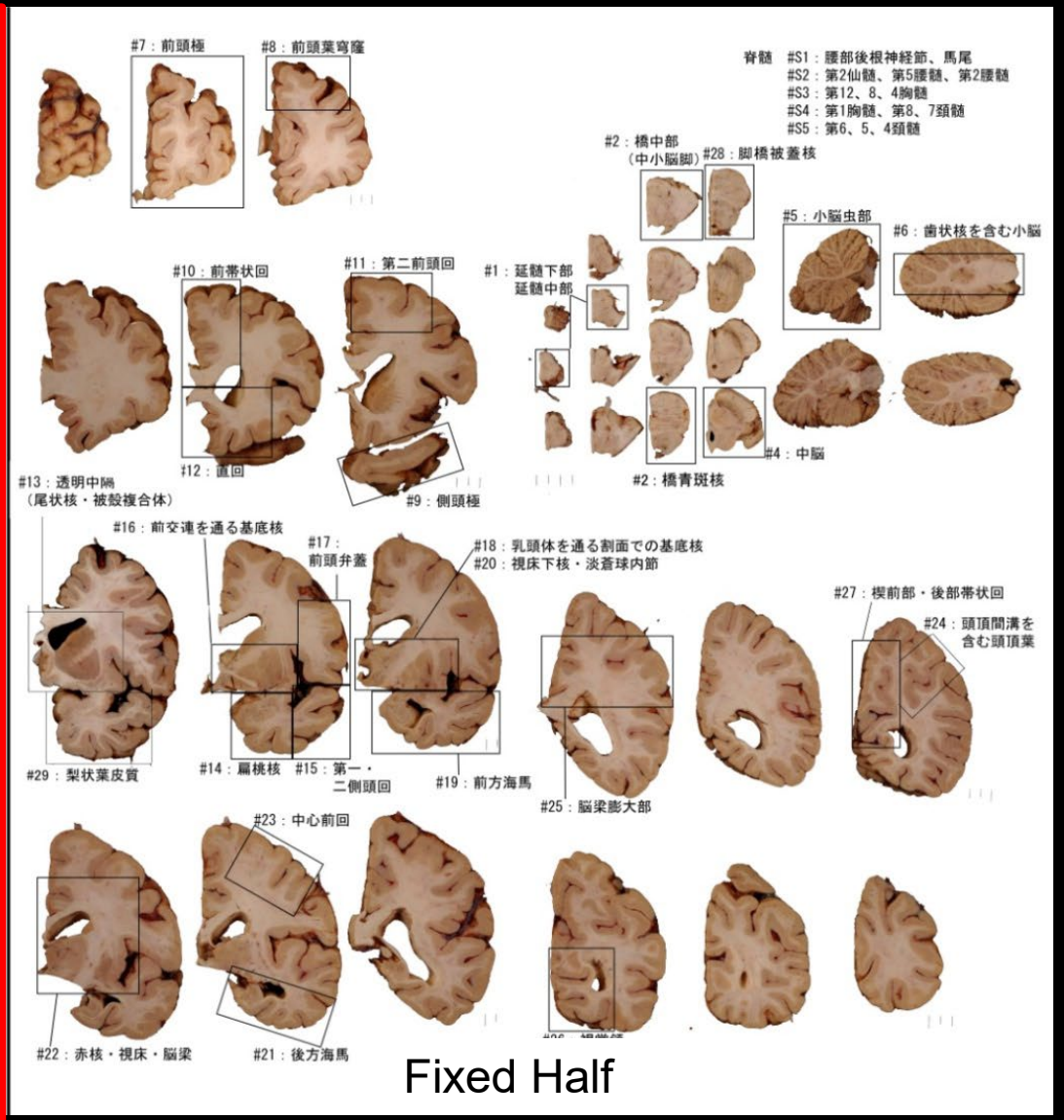
BBAR Resource (Frozen)

- Half brain after sampling small pieces of tissues for weak fixation.
- Entire spinal cord, after sampling the segments for pathological evaluation.
- Peripheral autonomic nervous system: sympathetic ganglia, esophago- columnar junction, heart, skin and olfactory plate.
- Skeletal muscle: biceps brachii (for the study of sarcopenia)
- General organs: small pieces of liver, kidney, lung, esophagus
- Serum (stored in the hospital laboratory).

BBAR Protocol (www.mci.gr.jp)



Frozen Half



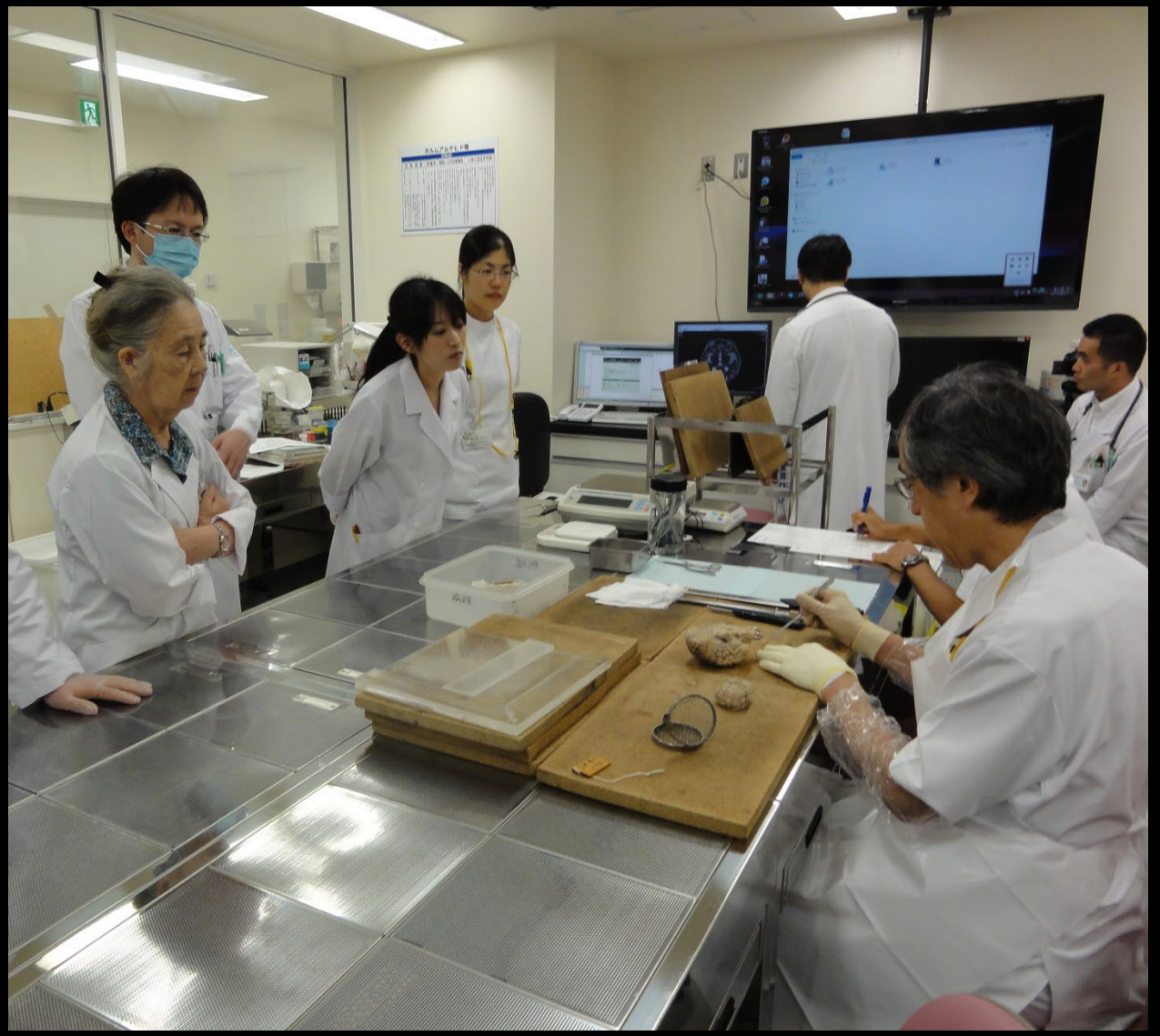
Fixed Half

8 areas: 4% paraformaldehyde over 2 nights
(McGeer's method @ British Columbia)

Brain Cutting (1972.5.1-)

Prof. Kinuko Suzuki
(80 y.o. then)

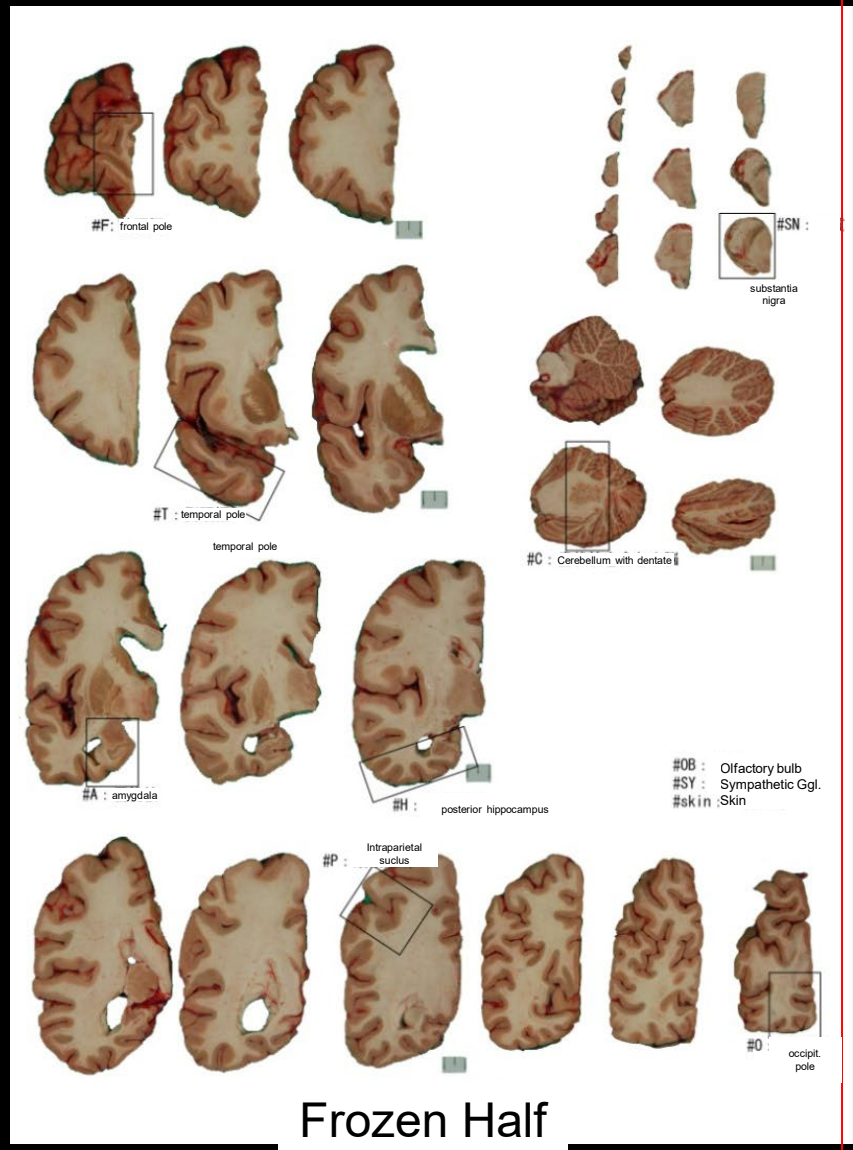
Kinuko Suzuki Award
Osaka City
Medical Committee



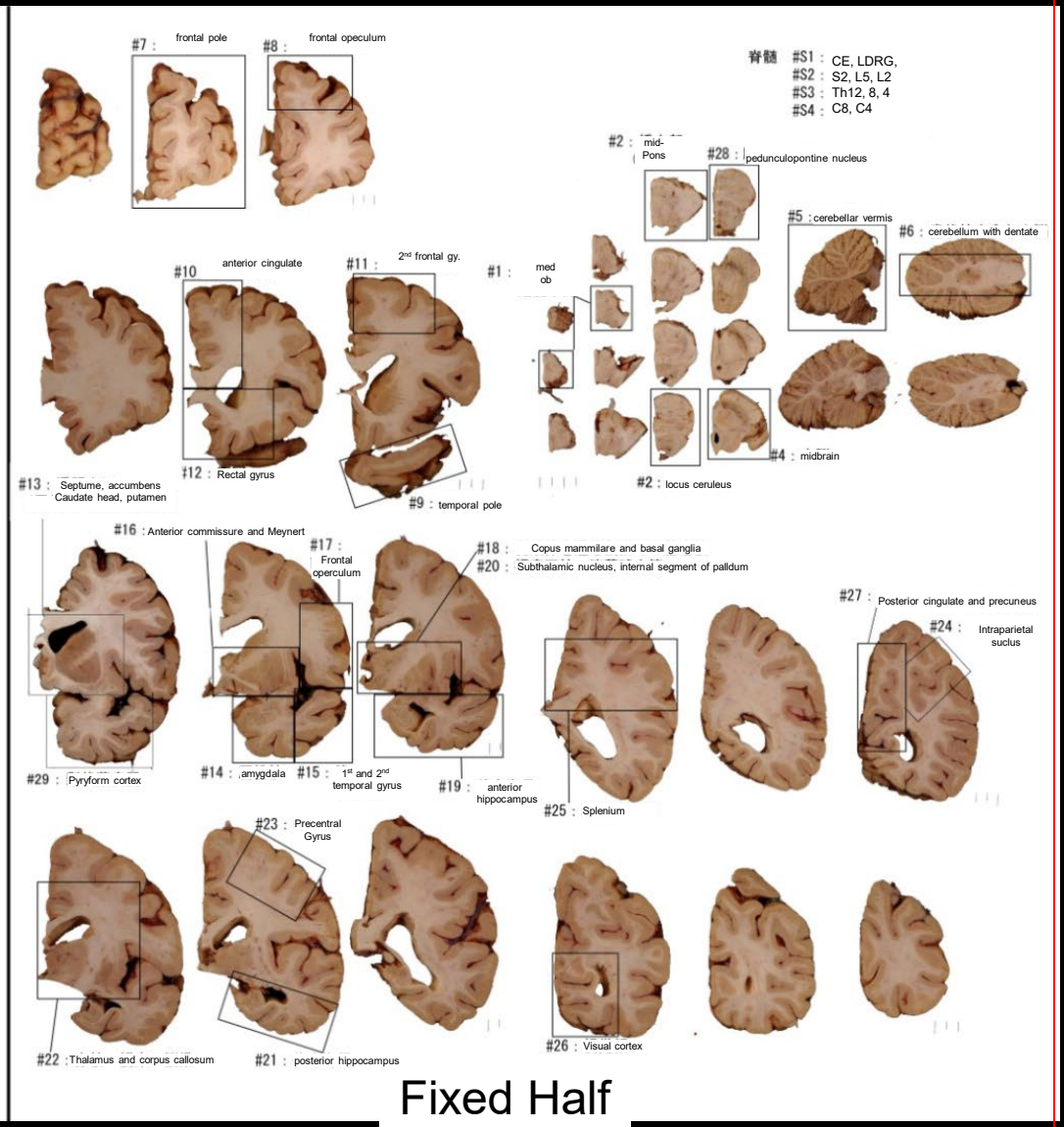
In collaboration of Neurology, Neuropathology, Psychiatry, Pathology and Rehabilitation, connected via internet.

BBAR Protocol: Fixed Side

Brain: 29 areas; Spinal Cord: 9 segments



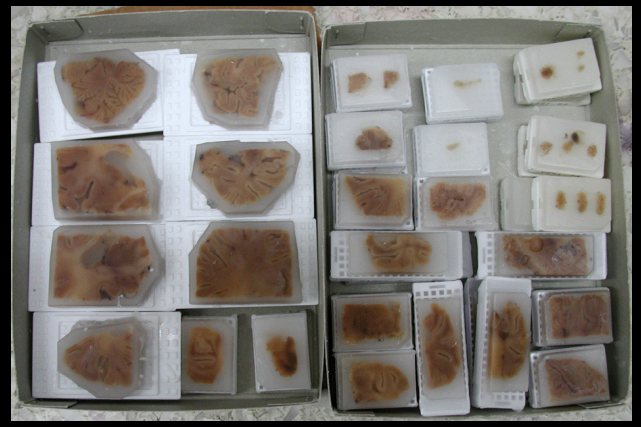
Frozen Half



Fixed Half

BBAR Protocol: Histological Examination.

Internationally Standardized
Neuropathological Diagnostic Method



Paraffin block of >7,000 cases
easily accessible

Library

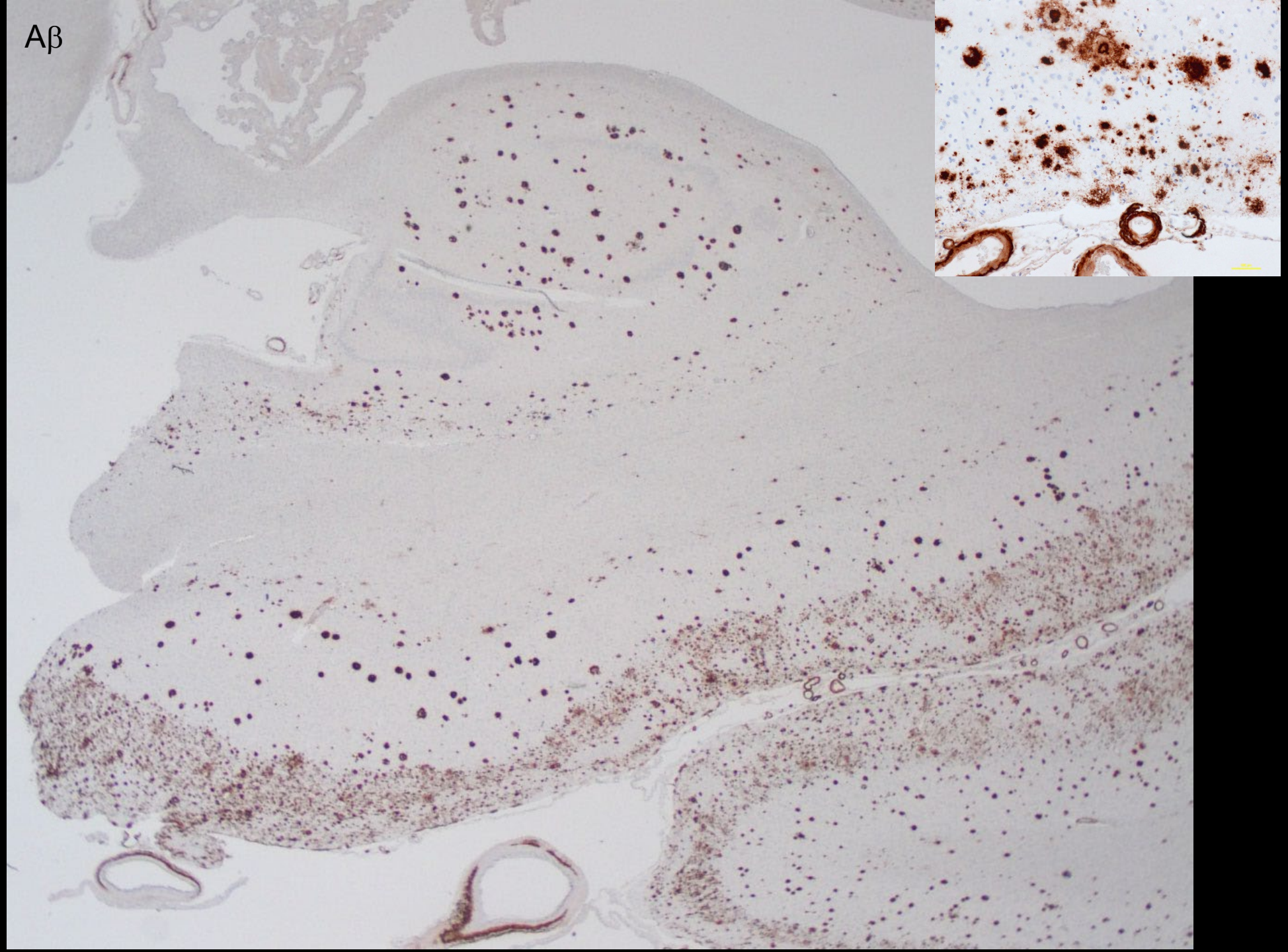
BBAR Resource (Fixed)

- 4% paraformaldehyde over two nights, one half for paraffin embedding and another half preserved in 20% sucrose PBS+0.1% NaN3
  - Brain: frontal, temporal and occipital poles, intraparietal sulcus, anterior amygdala, posterior hippocampus, midbrain, dentate nucleus, olfactory bulb
  - Spinal Cord: C4/8, T4/8/12, L5, S2
  - Peripheral ANS: sympathetic ganglia, esophago-columnar junction, anterior wall of the left ventricle of the heart, skin, olfactory plate, biceps brachii
- 20% buffered formalin for 7-13 days
  - Half brain, body organs

Staining

Routine: H.E., K.B.
Special: Gallyas-Braak, methenamine silver,
Elastica Masson, Congo red, thioflavin S
Immunohistochemistry with automatic stainer（Ventana）

Epitope	Antibody	Clone
Aβ11-28aa	12B2 (IBL)	monoclonal
phosphorylated tau	AT8 (Fujirebio)	monoclonal
3R/ 4R tau	RD3/ RD4	monoclonal
phosphorylated α- synuclein	psyn64 (Wako)	monoclonal
Ubiquitin	Sigma	polyclonal
Phosphorylated TDP43	PSer409/410	monoclonal
FUS/ TLS	Sigma	polyclonal


Aβ

P & CNS Screening ← tau → Lewy TDP ← Aβ →

Y−9□7□	PT	NFT	GT	NT	NP	AG		AT		Psyn		TDP	DP		CP		A/V		CCAA	
						R	L	TSA	BLA	R	L	−43	R	L	R	L	R	L	R	L
Sympathetic ganglion										o										
Dorsal root ganglion																				
Spinal cord																				
Sacral anterior horn																				
Sacral posterior horn																				
Intermediate zone (Sacral)										o	o									
Lumbar anterior horn												o								
Lumbar posterior horn																				
Lumbar anterior column																				
Lumbar lateral column										o	o									
Lumbar posterior column																				
Thoracic anterior horn																				
Thoratic posterior horn																				
Intermediolateral N. (Thoracic)										o										
Cervical anterior horn	o			o																
Cervical posterior horn																				
Medulla oblongata																				
Dorsal motor N. of vagus										o										
Hypoglossal N.																				
Inferior olivary N.																				
Pons																				
Pontine N.																				
Locus ceruleus										o										
Subceruleus																				
Pedunculopontine N.																				
Midbrain																				
Oculomotor N.																				
Edinger･Westphal N.																				
Pars compacta of SN	o			o						o	o									
Periaqueductal gray matter																				
Cerebellum																				
Cerebellar cortex													o		o		o			
Cerebellar white matter																				
Dentate N.																				
Interbrain / Basal ganglia																				
Broca's diagonal band																				
Hypothalamus																				
Nucleus basalis of Meynert	o			o																
Accumbens N.																				
Caudate N.																				
Putamen													o		o					
Ext. globus pallidus																				
Int. globus pallidus																				
Claustrum																				
Subthalamic N.																				
Thalamus																				
Allocortex (Rhinencephalon/Limbic)																				
Olfactory bulb periphery										o										
Anterior olfactory N.										o										
Piriform cortex (frontal)																				
Piriform cortex (temporal)																				
Amygdala	o	o		o		o	o	o	o	o			o		o					
Uncus / Ambient gyrus	o	o		o		o	o					o								
Dentate gyrus	o	o	o	o																
Hippocampus CA4	o	o	o	o																
Hippocampus CA3	o	o	o	o																
Hippocampus CA2	o	o	o	o						o										
Hippocampus CA1	o	o	o	o								o	o		o					
Subiculum	o	o	o	o		o	o					o								
Presubiculum																				
Entorhinal	o	o	o	o								o								
Transentrhinal	1	1	o	1						o										
Insular cortex																				
Anterior cingulate gyrus																				
Temporal pole (medial)																				
Cerebral neocortex (isocortex)																				
Temporal pole (lateral)																				
T4	o	o	o	o																
T2	o	o	o	o									o		o		o			
Fronatal pole													o		o		o			
F2																				
Supramarginal gyrus													o		o		o			
Visual association cortex																				
Striate area													o		o		o		o	
Primary motor cortex																				

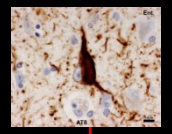
BBAR Degenerative Pathology Database

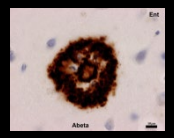
BBAR	Y96XX									
A/G	CDR	PMI	NFT	AT8	SP	CERAD	Thal	LB	LB score	DLB 3rd
93M	3	11:22	4/3	3/3	2	2	5	4	4	Limbic (amygdala predominant)
Grain	AA	AT	UD	TDP	ApoE	RIN				NPD
0.5/ 0.5	1C	1	3	T1M1S0	3/3	8.1				AD, LBD, CVDE

A/G age/ gender
CDR (clinical dementia rating): 0-3
PMI: postmortem interval
NFT (tangle: Braak Stage): 0-6
AT8 (tangle: AT8 Stage) 0-6
SP (senile plaque: Braak Stage): 0-3
CERAD 0-3 (0- C)
Thal (amyloid Thal Stage) 0-5
Lewy (Lewy body, BBAR Stage): 0-5
DLB score (DLB 1st Consensus Guideline)
DLB 3rd (DLB 3rd Consensus Guideline)
Grain (argyrophilic grain, Saito Stage): 0-3
AA (amyloid angiopathy, BBAR Stage): 0-3
AT (astrocytic tangle): 0-3
UD (ubiquitinated dots): 0-3
TDP (TDP-43 proteinopathy, temporal, medulla and spinal) 0-3
ApoE (apoE genotyping)
RIN (RNA intergrity number)
NPD: neuropathologic diagnosis (AD: Alzheimer disease; LBD: Lewy body disease; CVDE: embolic infarct)

DNA Resource (1,890 cases)

Braak NFT/ SP





	0	I	II	III	IV	V	VI	計
0	34 66.3	314 75.8	102 81.8	46 85.6	12 85.4	1 81.0	0 -	509 77.5
A	16 75.5	350 78.0	149 83.6	74 86.2	23 88.6	1 99.0	0 -	613 80.6
B	8 76.1	169 79.9	91 82.8	70 85.6	23 91.2	2 82.0	1 94.0	364 82.4
C	3 76.0	50 79.4	51 83.0	80 84.5	80 86.6	100 86.4	40 83.9	404 84.4
計	61 70.5	883 77.7	393 82.9	270 85.4	138 87.6	104 86.4	41 84.1	1890 80.9

Case #
Average Age

Alzheimer Disease: 220/ 1890 = 11.6%

Epidemiological Neuropathology of Lewy body disease

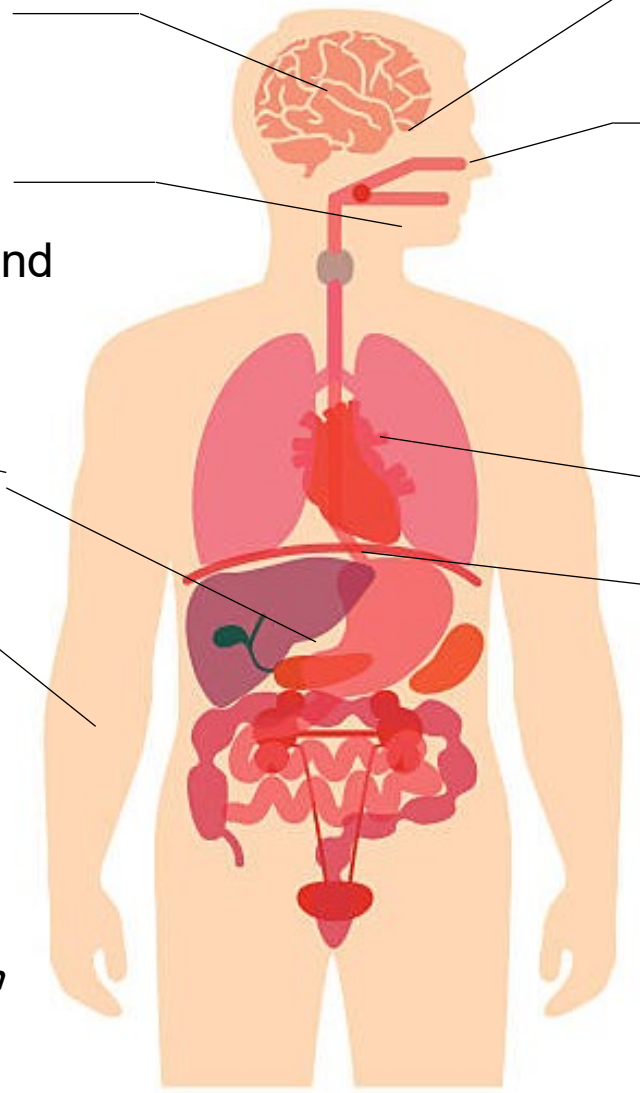
Saito, 2003, 2004
JNEN
Aging brain

Sakashita, 2021
Neuropathology
Submandibular gland
2022 JSNP Award

Ito, 2014
Int. J. C.E.P
GI tract

Ikemura, 2008
JNEN
Shishido 2010
Neurology
Skin

Sumikura, 2015
Acta Neuropath Com
Spinal cord, DRG



Sengoku, 2008
JNEN (cover page)
(AANP Moore Award)
Olfactory bulb

Funabe, 2013
Neuropathology
2014 JSNP Award
Saito 2020
Movement Diord (Cover Page)
Olfactory epithelium

Mitsui, 2006 *JNS*
Matsubara 2022 Neurology
Heart

Tanei, 2021
Acta Neuropath
Esophagus

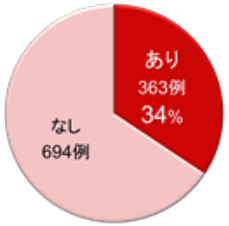
Fumimura, 2007
JNEN
Adrenal gland

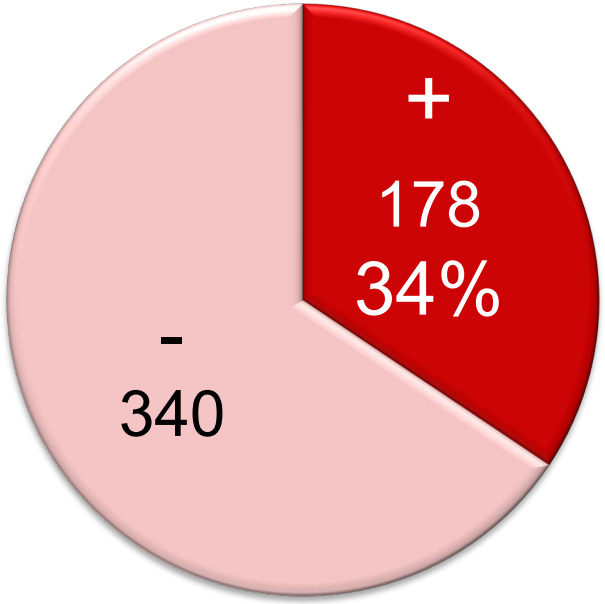
Hatsuta, 2016
J Park Dis
Spinal ventral roots

Lew body disease Body Resource

About 1/3 of aged population contained Lewy bodies in the body.

BBAR 1,057 cases
（2003～2018）

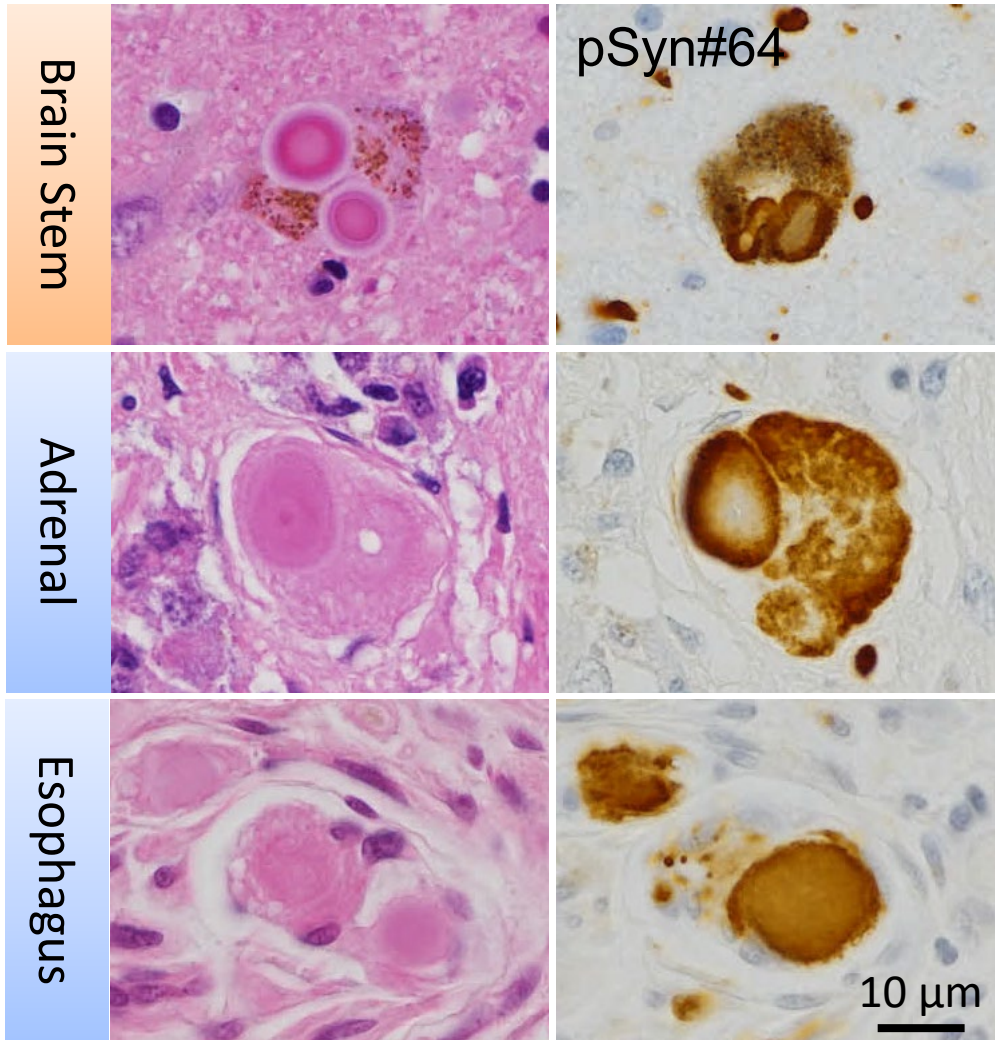




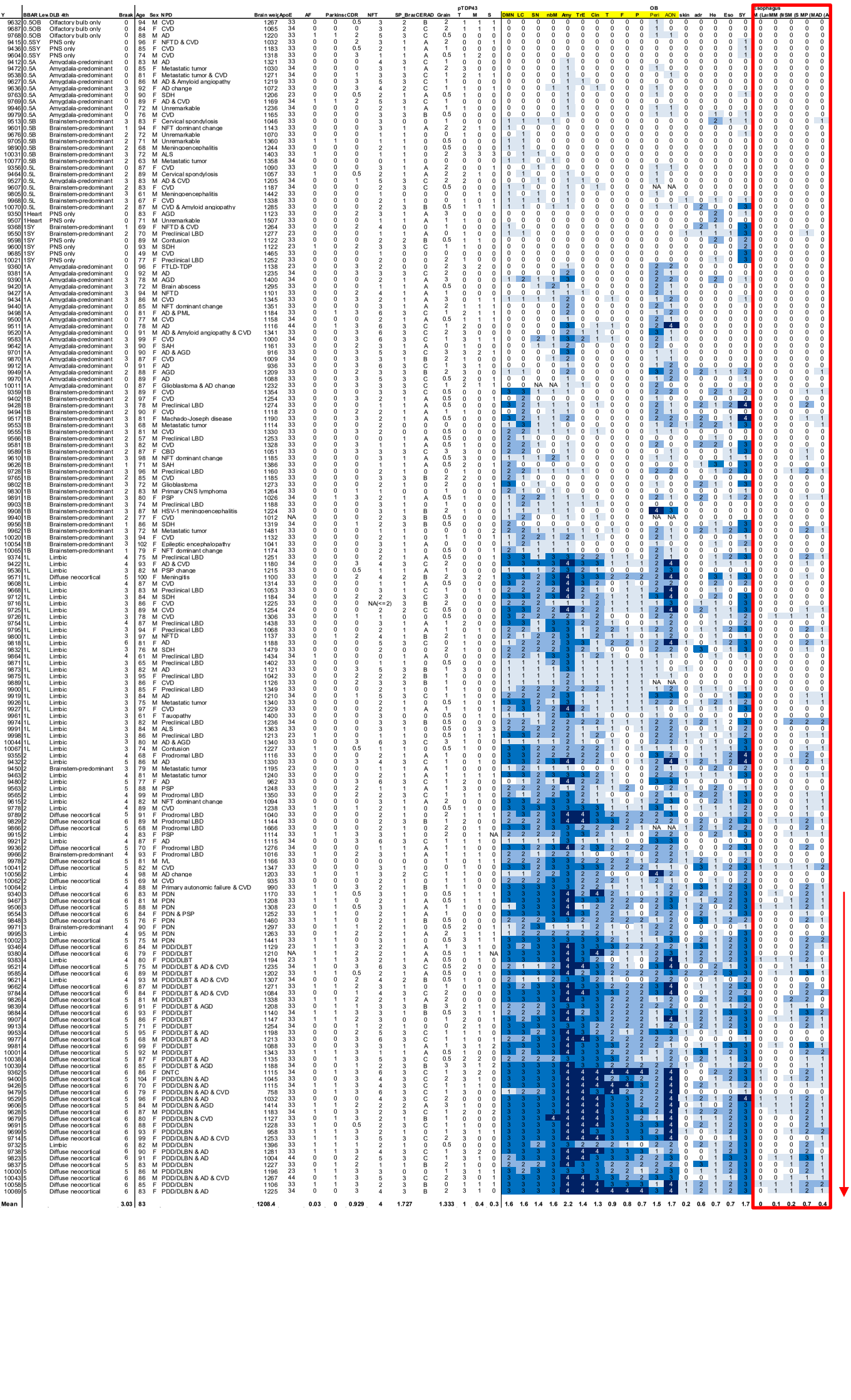
BBAR 518 cases
（2008 ～ 2018）

Screening GI tracts

Acta Neuropathologica Tanei et al 2021



Acta Neuropath in press


Lewy body in the esophagus correlated with severity of Lewy body disease.

Press Release Yomiuri News Paper

（第3種郵便物認可） 2020年(令和2年)11月5日（木曜日） 夕刊讀賣新聞 4版 8

災害時 逃げ遅れ防止

「津波てんでんこ」手本に

率先避難

近年の台風や豪雨災害を受け、災害発生時に、声かけながらいち早く逃げる「率先安全避難者」を育成する取り組みが各地で進んでいる。2011年の東日本大震災で注目された「津波てんでんこ」を手本とし、危機意識の低い人に行動に移してもらって、逃げ遅れゼロにつなげる考えだ。

各地自治 育成を急

昨年10月の台風で、曲川の堤防が決壊県では、逃げ遅れどから救助された1700人以上い婦と暮らす長野市の女性も、その一女性はあの日、無線などで避難がびかけられていた識していたが、自まった。結果、濁寄せ、逃げ場を失死で屋根に上り、

デイサービス 利用控え8割

コロナ感染警戒

厚生労働省が実施した介護事業所の新型コロナウイルスによる影響調査で、デイサービスなど通所介護事業所の81・7％に、高齢者が利用を控える動きがあったことが分かった。高齢者は感染すると重症化するリスクが高く、調査対象とした7月末時点でも、「利用控え」が広がっていた。

7月末時点 厚労省調査

調査によると、利用を控えた理由について、利用者や家族の感染不安を挙げた事業所が約7～8割に上った。介護事業所全体では、10月の収支状況について、32・7％が感染拡大前より悪くなったと回答。マスクや消毒液など衛生用品の経費が増加していると回答した事業所は7割を超えた。

また、2021年度の介護報酬改定の基礎資料となる介護事業経営実態調査では、19年度決算の収入に占める利益の割合（利益率）は全サービス平均で2・4％。3年前の前回調査より0・9ポイント下がり、経営状況が厳しくなっていた。

パーキンソン病「原因」

高齢者1/3に蓄積

研究成果発表

手足が震える「パーキンソン病」や幻視などの症状がある「レビー小体型認知症」の原因とされる物質が、高齢者の3分の1に蓄積しているとの研究結果を、東京都健康長寿医療センターのチームがまとめた。5日、国際科学雑誌オンライン版に発表した。

「レビー小体型認知症」も

研究は、2008～18年に同センターの高齢者ブレインバンク事業に登録された死亡時65歳以上の男女518人（平均80歳）が対象で、両疾患と診断されていた人も含まれる。対象者の遺体を解剖して脳や心臓、食道などの臓器を調べた。

その結果、178人（34％）の体内にパーキンソン病やレビー小体型認知症の原因とされる「レビー小体」という物質や、その生成過程の特徴が確認された。それは脳内だけでなく、体内のさまざまな部位で見つかった。食道の組織で見つかったケースが78例あり、すでにパーキンソン病などと診断されていて症状が重い人は、飲み込みにくさなど食道の症状もあるケースが多かったという。

同センターの斉藤祐子・神経病理学研究部長は「レビー小体の有無は解剖しないと確認できないが、相当数の高齢者がパーキンソン病などのリスクを抱えていることがわかった。食道の症状も病気の進行の目安になる。今後、病態の解明や治療法開発につなげたい」と話している。

新幹線に積み込まれる山形県産のラ・フランス（5日午前、JR山形駅で）

これぞ産直の味

JR東日本仙台支社と山形県は5日、山形県産の洋ナシ「山形ラ・フランス」を山形駅から山形新幹線「つばさ」に載せ、東京駅に運んだ。10月末に同県産ラ・フランスの販売が解禁され、旬を迎えた味覚をPRしようと初めて企画した。

この日は午前7時台からの4便で計約180㌔を輸送。東京駅の地産品ショップに並べ、6～8日は東京・銀座のイベントで提供する。午前9時3分に出発したつばさには、手渡しで9ケース（約45㌔）が積み込まれた。

Lewy pathology of the esophagus correlates with the progression of Lewy body disease: a Japanese cohort study of autopsy cases

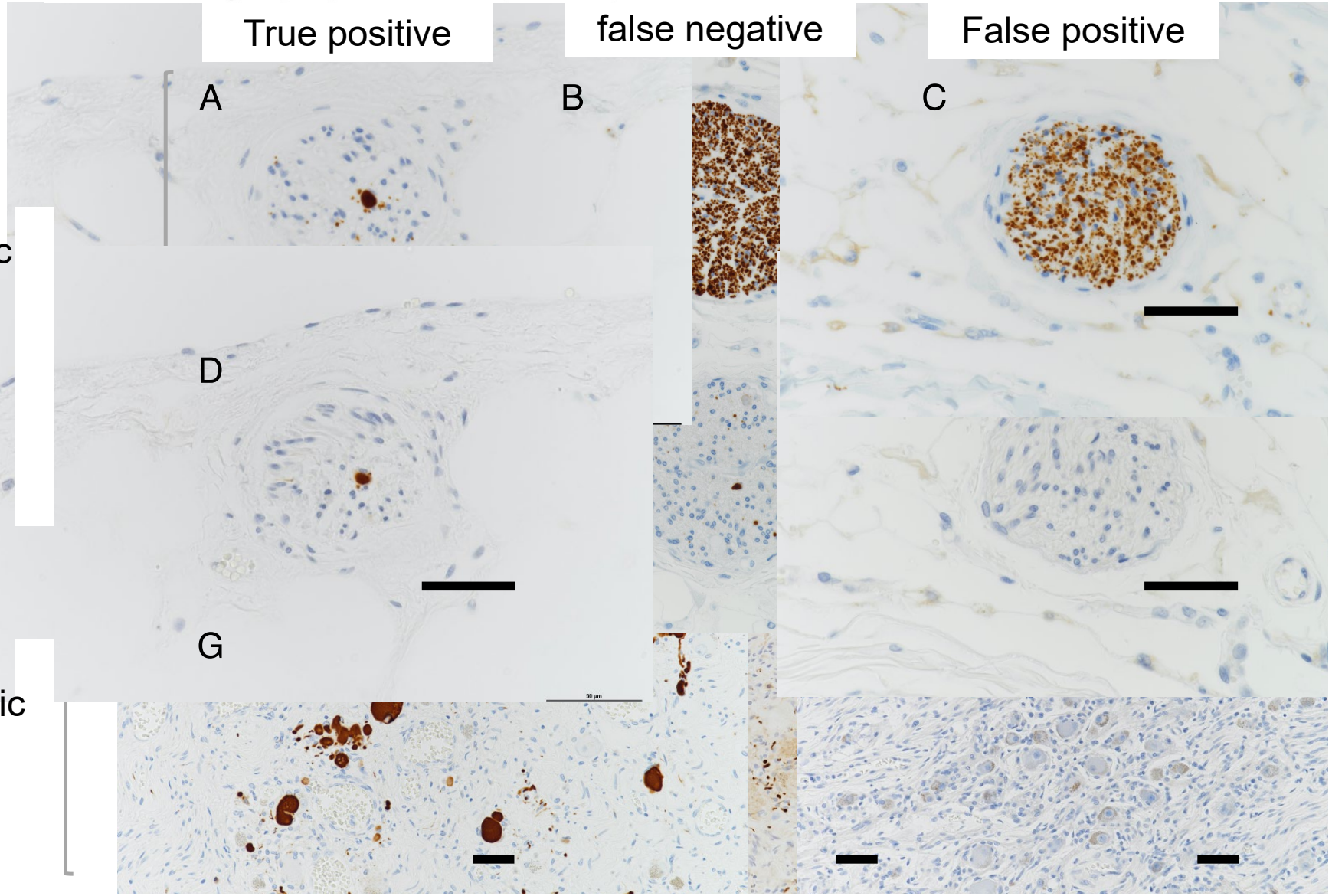
Zen-ichi Tanei, Yuko Saito, Shinji Ito, Tomoyasu Matsubara, Atsuko Motoda, Mikihiro Yamazaki, Yasuhiro Sakashita, Ito Kawakami, Masako Ikemura, Shinya Tanaka, Renpei Sengoku, Tomio Arai, Shigeo Murayama

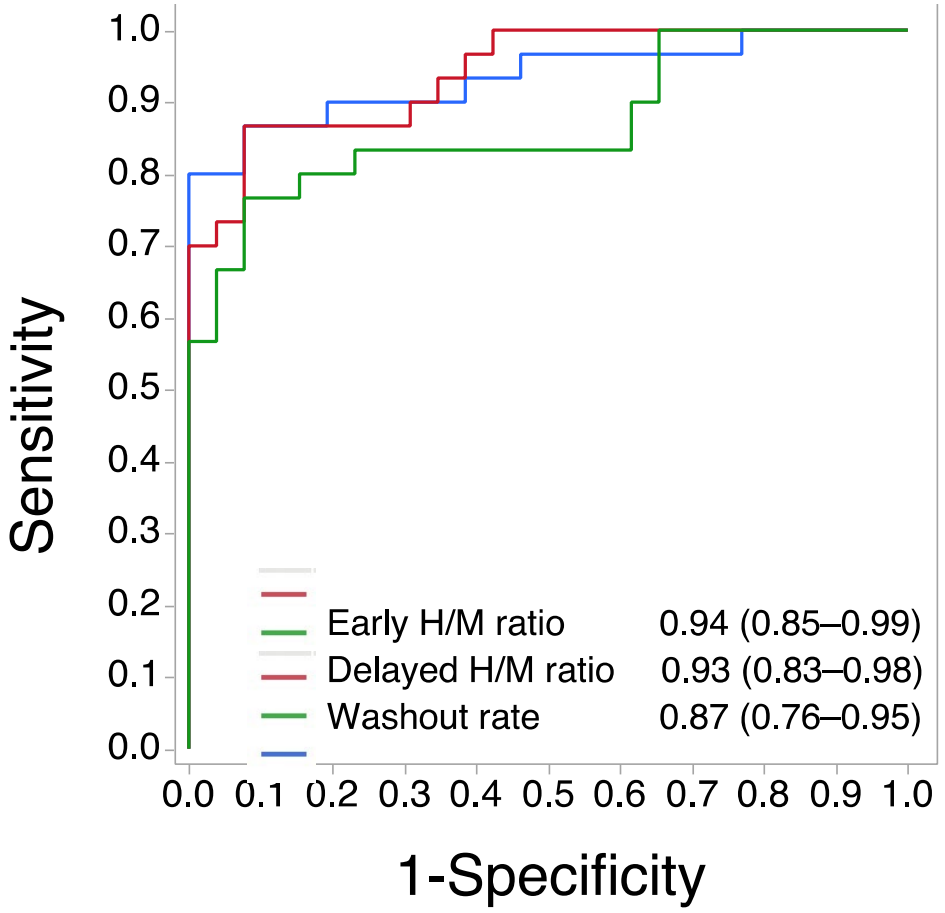
Acta Neuropathologica 2021

RESEARCH ARTICLE OPEN ACCESS

Autopsy Validation of the Diagnostic Accuracy of ^{123}I-Metaiodobenzylguanidine Myocardial Scintigraphy for Lewy Body Disease

Matsubara, T. et al
Neurology 2022;

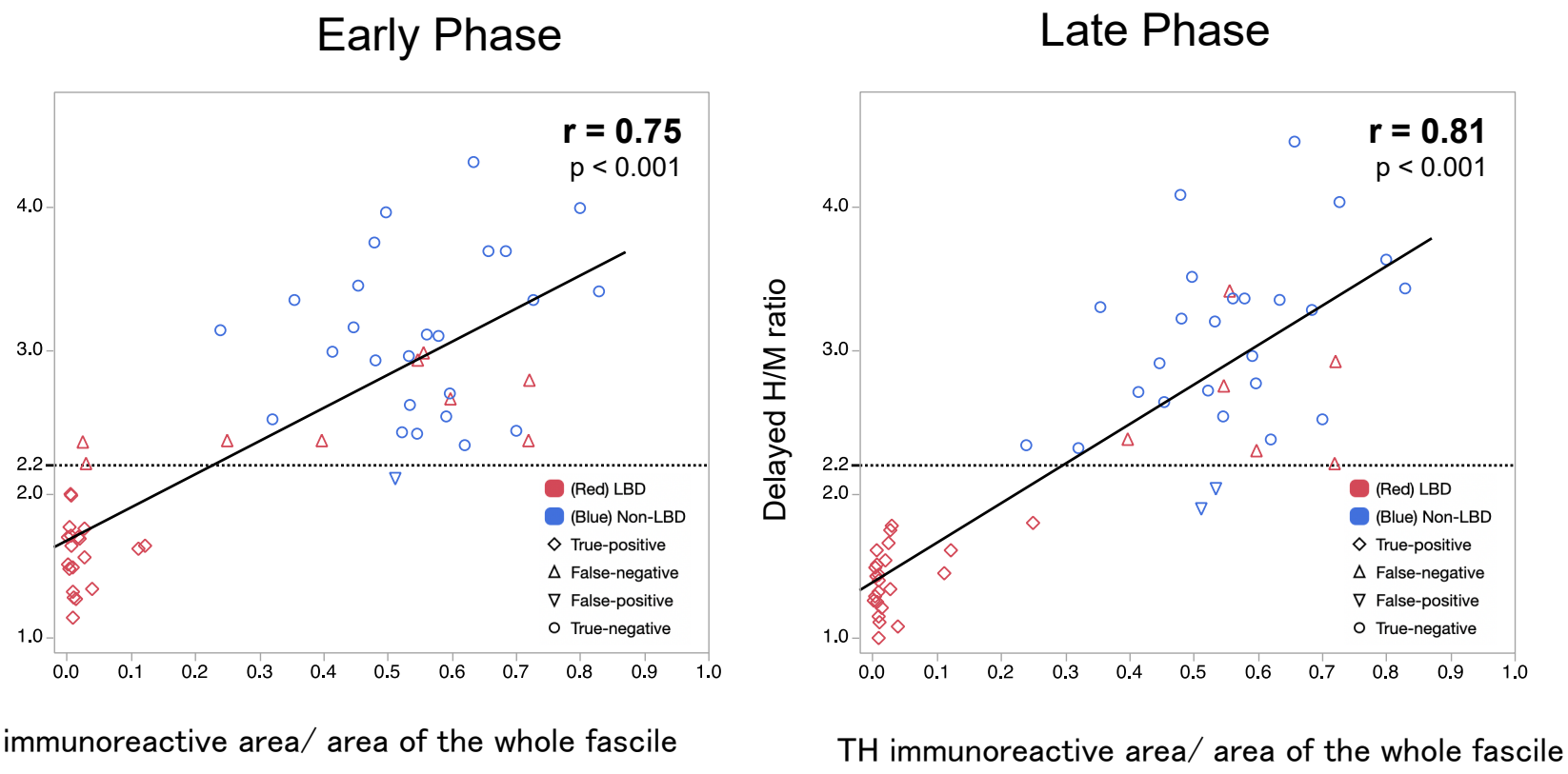




^{123}I-MIBG Cardiac Scinti.	TP	FN	FP	TN	sensitivity (95% CI)	specificity (95% CI)
Early H/M ratio (cut off: 2.20)	21	9	1	25	70.0 (50.6–85.3)	96.2 (80.4–99.9)
Delayed H/M ratio (cut off: 2.20)	24	6	2	24	80.0 (61.4–92.3)	92.3 (74.9–99.1)
Delayed H/M ratio (cut off: 1.81)	24	6	0	26	80.0 (61.4–92.3)	100.0 (86.8–100.0)
Washout rate (cut off: 34%)	24	6	4	22	80.0 (61.4–92.3)	84.6 (65.1–95.6)

H/M ratio strongly correlates with density of TH immunoreactive fibers

s



NEUROPATHOLOGY

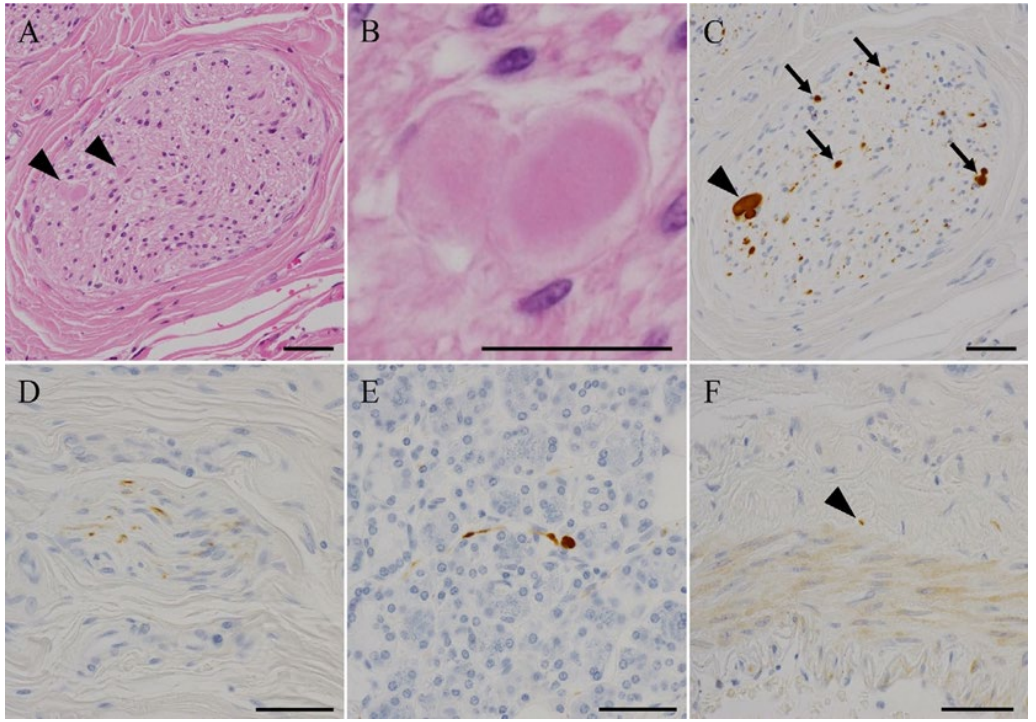
Neuropathology 2021 doi:10.1111/neup.12772

Original Article

Lewy pathology of the submandibular gland in Lewy body disease: A report of autopsy cases

Yasuhiro Sakashita,[1,2,3] Tomoyasu Matsubara,[1,4] Tadayuki Takata,[1,5] Zen-ichi Tanei,[1,6] Atsuko Motoda,[1,4] Mikihiro Yamazaki,[1,7] Ito Kawakami,[1,8] Renpei Sengoku,[1,7] Yuko Saito,[1] Tomio Arai,[2] Masahito Yamada[3] and Shigeo Murayama[1,9]

Departments of [1]Neurology and Neuropathology (the Brain Bank for Aging Research), [2]Pathology, Tokyo Metropolitan Geriatric Hospital and Institute of Gerontology, [7]Department of Neurology, The Jikei University School of Medicine, [8]Dementia Research Project, Tokyo Metropolitan Institute of Medical Science, Tokyo, [3]Department of Neurology and Neurobiology of Aging, Kanazawa University Graduate School of Medical Sciences, Kanazawa, [4]Department of Clinical Neuroscience and Therapeutics, Hiroshima University Graduate School of Biomedical and Health Sciences, Hiroshima, [5]Department of General Internal Medicine, Kagawa University Faculty of Medicine, Miki, [6]Department of Cancer Pathology, Faculty of Medicine, Hokkaido University, Sapporo and [9]Brain Bank for Neurodevelopmental, Neurological and Psychiatric Disorders, United Graduate School of Child Development, Osaka University, Osaka, Japan



BBAR LB stage	Subtype	*n*	Positive
0		43	0
0.5	Preclinical LBD	7	0
1	Preclinical LBD	3	0
2	Prodromal LBD	4	2
3	PD	1	1
4		3	3
	PDD	0	0
	DLBT	3	3
5		3	3
	PDD	1	1
	DLBN	2	2
Total		64	9

Table 4 Lewy pathology of the submandibular gland of 168 consecutive patients used in the retrospective study

BBAR LB stage	Subtype	*n*	Positive, %
2	Prodromal LBD	57	36 (63.2)
3	PD	18	15 (83.3)
4		50	40 (80.0)
	PDD	23	21 (91.3)
	DLBT	27	19 (70.4)
5		43	35 (81.4)
	PDD	5	5 (100)
	DLBN	38	30 (79.0)
Total		168	126 (75.0)
	PD/PDD	46	41 (89.1)
	DLBT/DLBN	65	49 (75.4)

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Article

Structure-based classification of tauopathies

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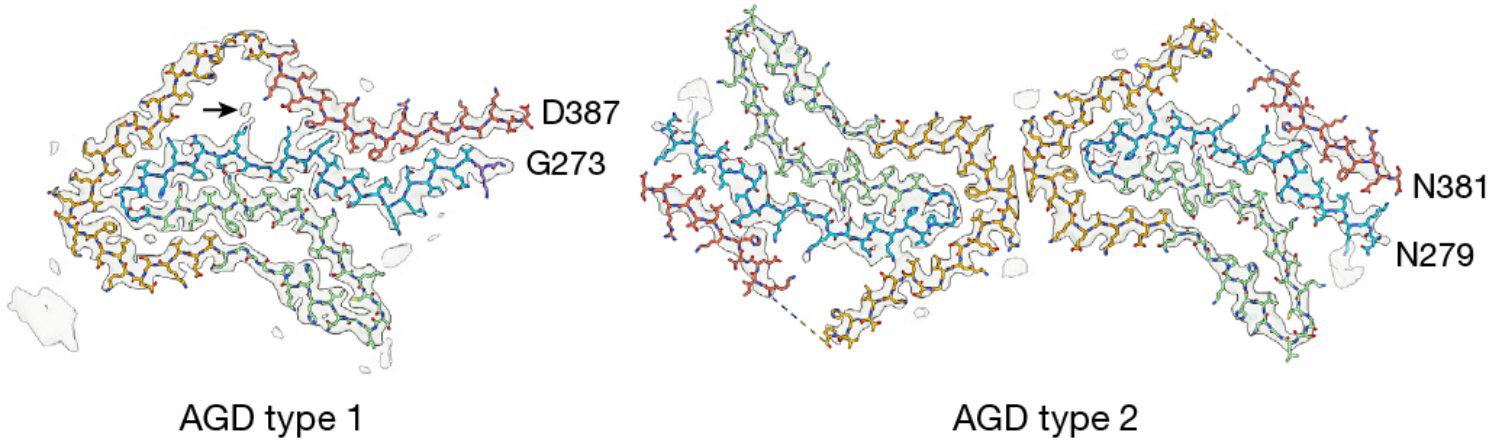
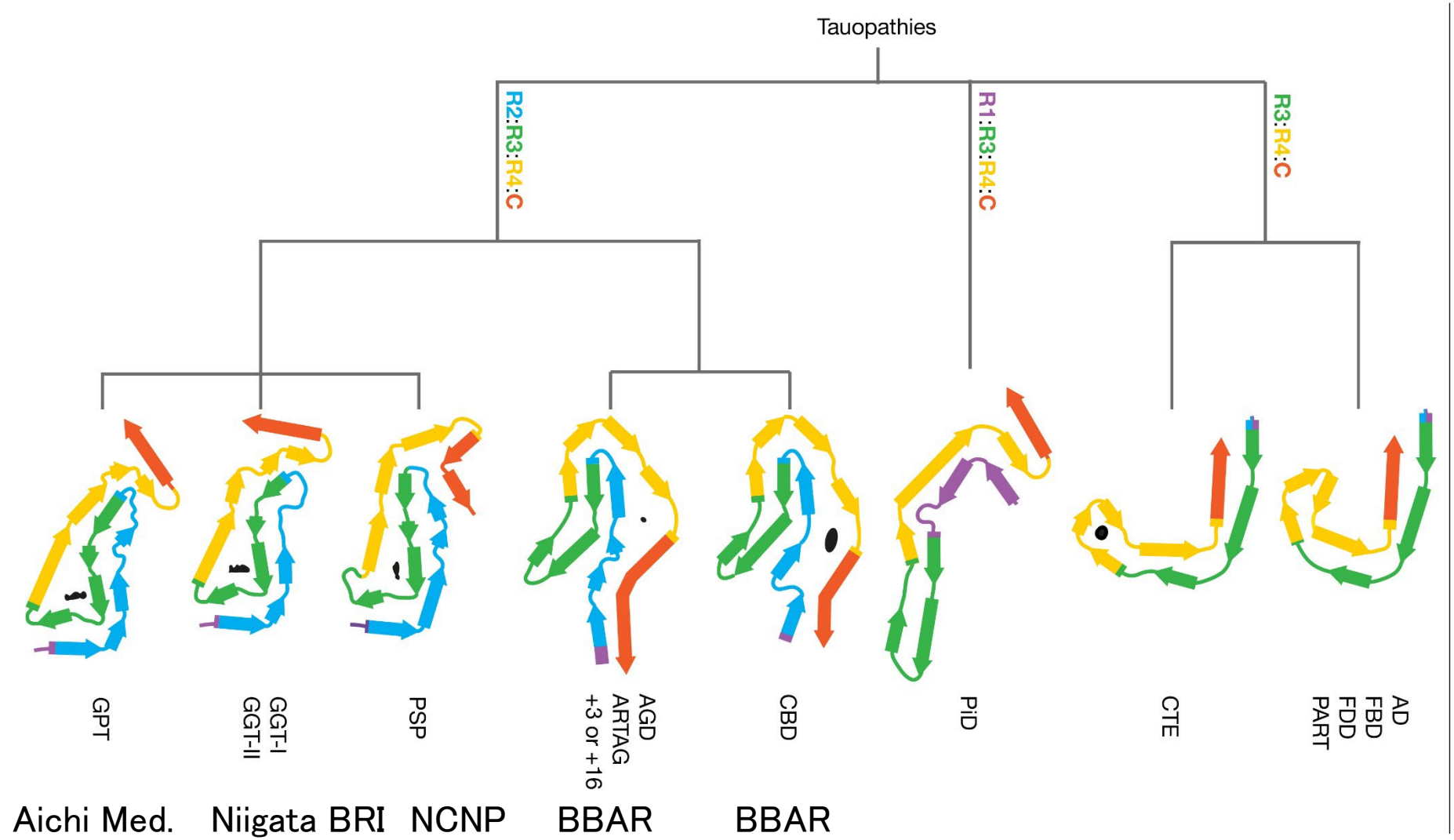


BBARから、嗜銀顆粒が単独に多数出現している側坐核を提供
光顕形態、免疫組織、WB、超微形態、タウ遺伝子変異無を確認

Structure- based classifications of tauopathies (Nature 2021)



The quality of the Japanese Brain Bank is superior to those in Western countries.

CJD Surveillance Commitee Pathology Core

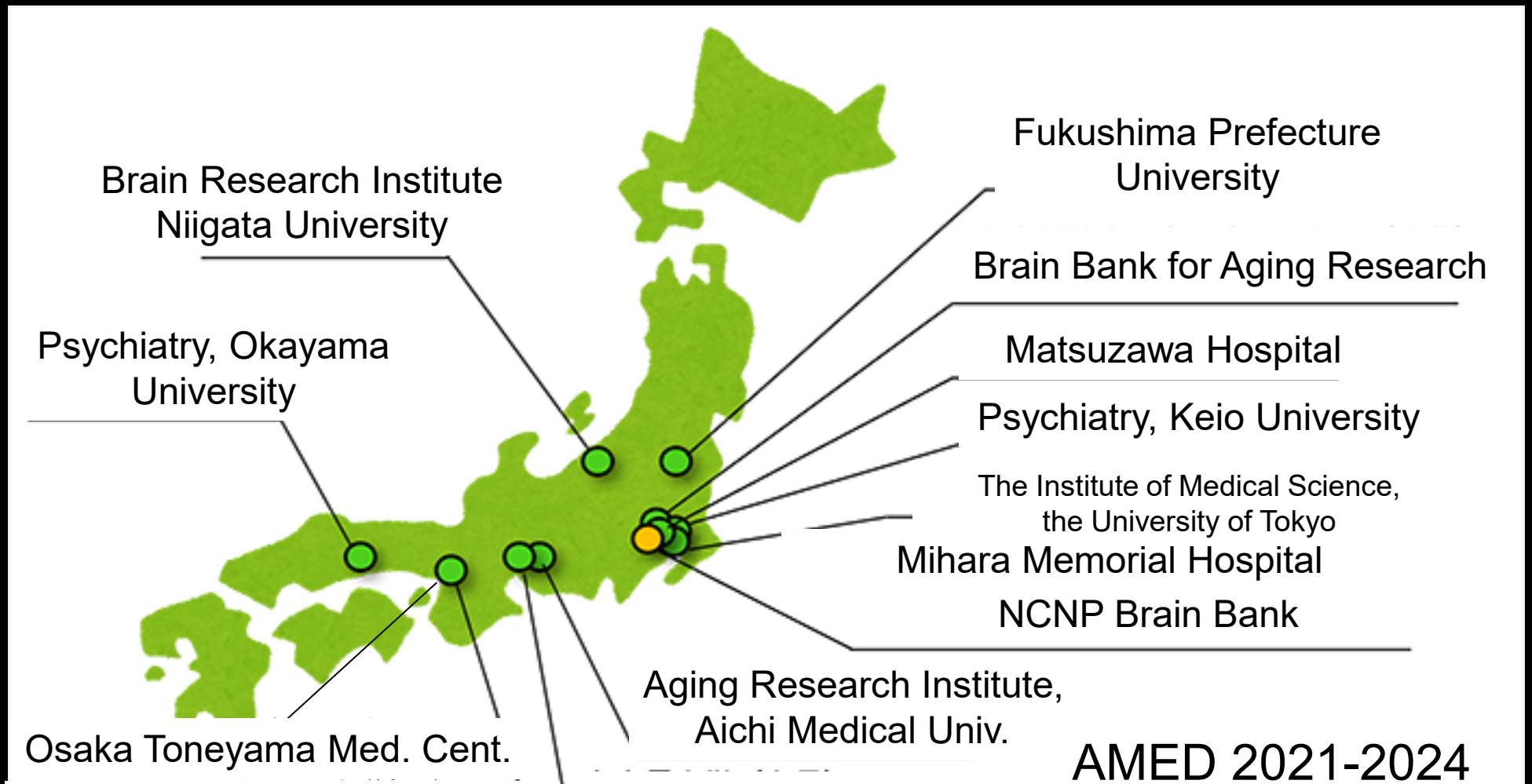
- To promote autopsies of prion disease.
- To receive autopsies of outside cases.
- To report to the committee on autopsy- proven prion cases (pathology route)
- Quality control of pathological findings of registered cases.
- To establish a national prion back- up bank.
- To study natural course of prion disease.

Grants in Aid from Ministry of Health, Labor and Welfare, Japan

International Collaboration

- Collaboration with Sydney Parkinson Disease Brain Bank funded by Michael J Fox Foundation (Prof. Halliday).
- Collaboration with Sydeney Westmead Hospital for ALS research
- Collaboration with Cambridge for atomic force microscope with Prof. Masato Hasegawa

Japan Brain Bank Net



Shortage of brains of psychiatric disorders

- The first round of JBBN (PI: Yuko Saito 2016-2020) recovered considerable number of schizophrenic brains.
- The shortage of bipolar brains still persists.
- Almost no autism brain resource is not solved yet.

Brain Donation and Psychiatric Disorders

- Neitherlands Brain Bank is promoting brain donation for psychiatric research.
- Neitherland approves physician- assisted suicide for intractable neurological disorders.
- They admit brain bank preresitrant psychiatric patients' suicide as their choice.
- In Japan, two IRBs, Fukushima Prefecture University and NCNP approve psychiatric patients' preregistration under each strict condition.
- Reliability of informed consent and trigger role for suicide are two major objections.

Autism Resource

- Autism Brain Net US is major research resource, promoted by the patient parent association, supported by NIH funded Harvard University and Maine State University.
- Our center has trio genome (patients and their parents) around 100 with immortalized cultured cells.
- Clinical diagnosis, authorized by the internationally approved psychologists
- Questionnaires of the Japanese Autism Patient Association returned favorable response to brain banking.
- Our IRB will not admit the patients' pairents' preregistration.

Suicide Bank

- Major research resource for mood disorders in Western Countries.
- Regulated by the laws for tissue banking there.

“Suicide victims should go down to hell but if suicide is caused by psychiatric disorders, the victims can go up to heavens”

- Preservation of Autopsy Act in Japan requires informed consent from the first kin of relatives for research use of autopsy tissue.
- We started brain depository of suicide victims in legal autopsy in collaboration with Department of Legal University, Osaka University
- Our IRB will not admit the first kin of relatives’ informed consent after forced compulosory autopsy.

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- We are trying to obtain public consent to stop suicide.

Brain Bank and Bioresource Center, Osaka University (2022)

Brain Bank for Neurodevelopmental, Neurological and Psychiatric Disorders

Chair (Prof.)	Murayama, S.
Concurrent (Neuro)	Lect. Beck, G.
M.D. Ph.D. Course	Yonenobu, Y.
	Yamashita, R.

Concurrent	Prof. Mochizuki, H. (Neurology)
	Prof. Katayama, Y. (Child Develop.)
	A.P. Tachibana, M (Child Develop)
	A.P. Mohri, I. (Child Develop)
	Lec. Yoshimura, T. (Child Develop)

BBAR Project (2022)

Brain Bank for Aging Research (BBAR)

Chair	Saito, Y.
Executive Director	Murayama, S.
Clinical Core	Iwata, A.
Staff	Matsubara, H.
Fellow	Arakawa, A.
Resident	Orita, M
Visiting Scholar	*Uchino, A.*
	Shioya A
Research Manager	*Morishima, M.*
Coordinator	Obata, M.

Neuropathology

Chair	Saito, Y.
Staff (cross appoint)	Murayama, S.

PET Center

Chair	Ishii, K.

Neurology

Chair:	Iwata, A.
Co- Chair:	Kanemaru, K.
Vice- Chair,	Nishina, N.
	Higashihara, M.
	Ihara, R.
Staff:	Hatano, A.
	Kurihara, M
Res. Resident:	*Morimoto, S.*

Rehabilitation

Senior:	Kato, T.

Psychiatry

Chair:	Furuta, K.

Pathology

Chair	Arai, T.

Radiology

Chair	Tokumaru, A.