

NACC NEUROPATHOLOGY DATA

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Introduction

- ADC Neuropathology Core Steering Committee
 - ◆ Elizabeth Cochran
 - ◆ Dennis Dickson
 - ◆ Bernardino Ghetti
- NACC Neuropathology data
 - ◆ NP minimum data set (MDS)
 - ◆ Center-Specific NP Procedures Survey

Neuropathology MDS Purpose

- To identify a standard minimum dataset on which individual centers can build
- To provide data which will facilitate collaboration between ADCs.
 - ◆ Example- identification of cases occurring in low frequency in any one center

Neuropathology MDS Contents

- Alzheimer's disease
- Vascular disease
- Other dementias
- Other pathology
- Genetic information

Alzheimer's disease

- Pathological diagnosis
- Specific criterion used
- Braak stage
- Neuritic and diffuse plaque estimates (CERAD)

Vascular disease

- Sizes of strokes
- Locations of strokes
- Presence and degree of vessel disease
- Other types of vascular disease

Other dementias and pathology

- Lewy body disease
- Frontotemporal degenerations (tauopathies)
- Prion disease
- Other major pathologic disorders

Genetic Information

- Family history
- Genetic variants and polymorphisms
- Genetic or chromosomal abnormalities

Center Specific NP Procedures Survey

- Purpose
 - ◆ To provide investigators with easy access to a detailed summary of neuropathological procedures used and specific types of specimens available at each ADC

Survey Contents

- General information
- Specimen and tissue preparation
- Histology
- Neuropathology criteria
- Additional procedures

General Information

- Type of Database
- Neuropathology variables
 - ◆ Number
 - ◆ Type
- Specimen storage inventory
- Agonal state information availability

Specimen and Tissue Preparation

- Post-mortem interval (average)
- Specific neuroanatomic regions of brain collected & how they are preserved (fix/cryo/frozen)
- Fixed tissue
 - ◆ Fixatives used
 - ◆ Time and temperature of fixation
 - ◆ Cryoprotected tissue availability

Specimen and Tissue Preparation (con't)

- Frozen tissue
 - ◆ Method of dissection and freezing
 - ◆ Storage temperature
- Other biological specimens banked
 - ◆ (i.e., DNA, cerebrospinal fluid, cell lines)

Histology

- Stains routinely used:
 - ◆ β amyloid pathology
 - ◆ Neurofibrillary pathology
 - ◆ Other neuronal/glial pathology
 - ◆ Prion pathology
 - ◆ Other (Kluver, GFAP, etc.)

Neuropathology criteria used

- Alzheimer's disease criteria
- Lewy body disease criteria
- Frontotemporal dementia criteria

Additional Procedures

- Screening for infections
- Special procedures
 - ◆ (Western blots, stereology, electron microscopy, confocal microscopy, etc.)

NACC NP DATA

Current Status/Next Steps

- NP MDS form and data collection – great success
- Neuropathologist and data manager input will be basis for future refinements
- Newly-formed ADC NP core Standards and Quality Assurance Subcommittee

Questions, comments
and suggestions?