Development of a standard of care for patients with valosin-containing protein (VCP) associated multisystem proteinopathy (MSP)

Manisha Korb1, Alison Peck4, Lindsay N Atlan6, Kenneth I Berger, Meredith K. James7, Husum Ghoshali8, Elise Hausler9, Claire Henschel9, Shaali Khan10, Pradeep P. Mamman11, Susajo Patel12, Gerald Pfleiffer13, Stuart R Raiton14, Bhaskar Roy15, Bill Sweely16, Andrea Swenson17, Tahseen Mizzaffar13, Conrad Weihl18, 19, Virginia Kimonis2,3, on behalf of the VCP Standards of Care Working Group

AIM 1: Establishing a multidisciplinary standard of care for appropriate pharmacotherapies and supportive therapies
AIM 2: Expediting time to accurate diagnosis
AIM 3: Identify gaps and future directions for clinical research

METHODS
1. Recruited a multidisciplinary team of 50 physicians and therapists
2. Domain teams reviewed literature, exchanged ideas, and prepared a domain consensus recommendation based on expert opinion and adjacent disease practices
3. A virtual consortium meeting was held on April 9, 2021
4. Meeting discussion points integrating into one manuscript with team member sign-off

PATIENT ADVOCACY ROLE
1. Provided patient perspective in project scope
2. Recruited expert clinicians to participate
3. Organized communications, facilitated discussions, and hosted meetings
4. Assisted in literature review
5. Reviewed and edited the manuscript concerning patient perspective and symptoms

RESULTS
- Each domain team created a 2-5 page consensus guideline
- One multidisciplinary manuscript has been submitted for publication

REFERENCES:

International **collaboration** among a multidisciplinary team addresses unmet patient need in rare disease:

1. Delays in diagnosis and prolonged time to treatment
2. Delays in recognizing involvement of other organ systems
3. Disparate care between clinics
4. Disease development in at risk, undiagnosed family members

OUR STANDARD OF CARE DEVELOPMENT CYCLE

- **Physician Survey**
- **Patient Registry**
- **Informal Reports**
- **Team Meetings**
- **Literature Review**
- **Expert Dialogue**

**Clinical Features**

**Management**

**Surveillance**

**Research projects** launched to address gaps and future directions

**Care recommendations** created, modified, accepted, and published

**Patients and physicians** identified unmet patient needs

**Natural History**

**Clinical Studies**

**Case Studies**

PREVALENCE OF PHENOTYPS

- Inclusion Body Myopathy ~ 90%
- Paget’s disease of Bone ~ 40%
- Frontotemporal dementia ~ 30%
- Respiratory dysfunction ~ 40-50%
- Amyotrophic lateral sclerosis ~10%
- Parkinson disease ~ 4%
- Alzheimer disease ~ 2%
- Spastic paraplegia ~ isolated
- Charcot-Marie-Tooth disease ~ isolated
- Cardiomyopathy ~ unknown
- Urinary and anal dysfunction ~ unknown

MULTIDISCIPLINARY DOMAIN TEAMS

- Genetic diagnosis
- Myopathy
- Frontotemporal dementia
- Paget’s disease of bone
- ALS and CMT
- Parkinson’s disease/parkinsonism
- Cardiomyopathy
- Respiratory dysfunction
- Supportive therapies (including physical and occupational therapy, speech language pathology)
- Mental health
- Supplements and nutrition

**ABOUT VCP ASSOCIATED MSP**

Rare, heterogeneous, autosomal dominant, genetic disorder affecting multiple organ systems including the muscular, skeletal, and central nervous system

**CONSULTING, Vinton Iowa, USA9; Department of Neurology & Neurotherapeutics10 and Medicine (Cardiology)11; University of Texas**

**NYU Grossman School of Medicine, New York NY, USA6; The John Walton Muscular Dystrophy Research Centre, Newcastle University**

**of the VCP Standards of Care Working Group**

**Korb1,3, Conrad Weihl18, 19, Virginia Kimonis2,3, on behalf**

**Shaida Manisha Korb1, Allison Peck4, Lindsay N Alfano5, Kenneth I Berger6, Allison Peck4, Lindsay N Alfano5, Kenneth I Berger6,**

**Clinics, Iowa City IA, USA, and Department of Neurology18 and The Hope Center19, Washington University in St. Louis, St. Louis**

**Weill Institute for Neurosciences University of California San Francisco, San Francisco CA, USA16; Department of Neurology,**

**Oxford University Hospitals, Oxford OX2, UK14; Department of Neurology, Yale School of Medicine, New Haven CT, USA, and the**

**Institute of Genetics and Cancer at the University of Edinburgh, Edinburgh SCT, UK14, Department of Neurology, Yale School of Medicine, New Haven CT, USA15, and the Hope Center19, Washington University**

**In St. Louis, St. Louis MO, USA8; Thriving Hope Foundation, Iowa City IA, USA, and Department of Neurology, University of**

**Harvard Medical School, Boston MA, USA20,21; Cure VCP, Woodland Hills CA, USA.**

**Institute of Genetics and Cancer at the University of Edinburgh, Edinburgh SCT, UK14, Department of Neurology, Yale School of**

**Education and Research Projects**

**informal reports**

**patient registry**

**natural history**

**Clinical Features**

**Management**

**surveillance**

**Patients and physicians** identified unmet patient needs

**Research projects** launched to address gaps and future directions

**Care recommendations** created, modified, accepted, and published

**Physician Survey**

**Patient Registry**

**Informal Reports**

**Team Meetings**

**Literature Review**

**Expert Dialogue**

**Natural History**

**Clinical Studies**

**Case Studies**

**REFERENCES:**