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Commentary

Heart and Brain Tissue Banks for Resear Occurring Cardiovascular and Neurological/Psychiatric Disorders

Milos D. Ikonomovic

Departments of Neurology and Psychiatry, University of Pittsburgh

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Abstract

Epidemiological studies point to a strong and possibly causal assoc cardiovascular disease (CVD). Mechanistic links between these co- insight into their relationship could help identify novel diagnosti translation of basic biomedical research into clinical practice, ana However, current tissue banks dedicated to psychiatric and neur deemed most important to the institution's participating investigat constraints, restricted tissue storage space and other practical rea community to access and study multiple organ systems relevant t This problem is worsened when clinical records pertaining to co promote further understanding of co-occurring CVD and psychiatri support tissue banks that harvest heart, coronary arteries, and ac subjects.

A growing awareness of the links between diseases of the card nervous system, including psychiatric and neurological disorders pathophysiological mechanisms underlying these associations [1]. hampers understanding the etiology of the most common neurode

AD). This view has led to reassessment of our current methods thorough evaluation of the risk factors and pathophysiological proc

Extensive efforts have been made to elucidate the role of elevated and cerebral hypoperfusion in the pathogenesis of AD [3]; howe possible correlations between hallmark lesions of AD and me postmortem. The latter approach has resulted in some intriguing reported that indices of coronary artery disease, assessed histolog of neuritic plaques in the hippocampus, entorhinal cortex, and findings of a link between AD pathology and coronary artery dis other studies that sought to correlate AD lesions with the extent of additional studies utilizing brain, heart, and artery tissues from th insight into possible links between cardiovascular and neurodeger are incomplete and detailed antemortem assessments of card electrocardiography) were not performed in psychiatric and neurol

A prominent example of comorbid psychiatric and cardiovascular c coronary heart disease (CHD). Depression is associated with incre with prominent increases in cardiovascular health care costs [9]. with CHD be screened for depression [8], additional research is treatments affect cardiac outcomes [10]. Hence, better underst depression is needed to direct clinical trials, for example, to sel treatment modalities for these comorbid disorders.

It is conceivable that studies using postmortem brain and heart/ advantageous to the cardiovascular psychiatry/neurology research routinely from autopsies of normal and diseased adults. Consider [11, 12], it is not surprising that tissue banks of multiple-organ patients are not readily available. Nevertheless, banking protoc additional tissues has been identified. For example, the observat affected in AD has prompted some Alzheimer's Disease Resea autopsy samples of retinas and optic nerve. Larger brain neurodegenerative disorders, particularly those banks structured w Health-funded initiatives for longitudinal studies of the elderly an brain and spinal cord autopsy samples, the subject's blood antemortem clinical and imaging data. Ideally, banking efforts w tissues, such as the heart and blood vessels, to their specimens. Group has undertaken such an ambitious multiorgan banking proj brains and has implemented an autopsy protocol for harvesting carotids, and kidneys [13]. Carotid, coronary, and Willis' Circle a valves and ventricular muscle are examined for chronic effects of resources of such magnitude, great dedication and effort will be Some of the cohorts that would be particularly valuable for pl participants in prospective studies of CVD and dementia [14].

Several issues should be considered before initiating the extensio First, a detailed and comprehensive protocol would have to procedures from multiple organs. Next, a dedicated and adequate combined with insufficient personnel and tissue storage capacities large scale storage of harvested tissues. Finally, greater efforts m clinical neuroscientists with experts in CVD. These collaborations cardiovascular and psychiatric/neurological disorders as well a accompanies cognitive decline in many elderly individuals. By accommodate the emerging need for a multiorgan/tissue oriented

fostered to provide broader insight into the disease process. This for such initiatives, along with matching education and outreach projects.

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