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Describing the dying days of “Alzheimer's disease”

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There is no doubt that individuals, families, communities, and governments face an enormous challenge in the growing number of persons with dementia in our societies. Accompanying this demographic boom is an opportunity to examine the way we think about the vast, miscellaneous category we currently call “Alzheimer’s disease”, (AD), which has just eclipsed its 100th year in the medical lexicon.

The current dominant molecular paradigm has been advantageous in raising awareness of senile dementia, generating funding, and stimulating research and discourse. However, after the failure of over twenty anti-amyloid drugs in the past decade, the amyloid cascade hypothesis is now dying and losing its fear-producing grip on the public. In light of these failures, calls for more money for failed approaches appear to meet the Einsteinium definition of insanity by trying to solve a problem through the recapitulation of old ideas and approaches. Advocates want to make research centers bigger and promise more results for more money. Larger numbers of “subjects” in longer studies with more assessment instruments are planned with the promises of greater knowledge when what they are likely to produce is more difficult-to-interpret data sets. When scarce resources are applied uncritically to scientific enterprises, it leads to disinvestment in other areas of humanitarian care and social priority.

Further, the latest draft NIA/Alzheimer Association diagnostic criteria (1,2,3 and related 4,5) propose the double indignity of taking human suffering and the alleged certitude of brain changes out of the picture. Some not only don't require impairment in activities of daily living to apply labels, and other proposed guidelines don't even require symptoms to label someone with a pathological label (i.e. "presymptomatic Alzheimer's") (1,4). Even an autopsy is now optional as we have found unreliable what was in the past the requirement for definite diagnosis (4, 5). Biomarkers measured by assays of spinal fluid or neuroimaging are said to now be key to labeling people despite the fact that their reliability, standardization, interrelationships, and validity are unproven. We are left with the likely false hope that if we just spend more money and give different drugs (or the same ones in different doses) at earlier time points (before symptoms develop), we will prevent and even cure the fearsome "disease" that afflicts us.

Unfortunately, the emperor is not wearing any clothes – and on top of that, he is looking quite feeble and out of shape. Just as he requests more money for his tailor, he ignores the fact that he is nude, that his sword has proven to be blunt, and that different "weapons" and "strategies" will be needed for the task at hand. Indeed, after a decade of failed drug approaches, the fundamental assumptions underlying our cultural "story" about AD need to be reexamined. We must look beyond the molecular paradigm and understand AD as a multifaceted condition intimately related to aging.

Re-imagining “AD” and dementia

In the article "Scientific Truth or False Hope? Understanding Alzheimer’s Disease from an Aging Perspective" (6) by Chen et al, the authors persuasively argue that what we now call "AD" is in fact a heterogeneous, age-related condition, and that our current disease classifications are as much social markers as they are biological. Their call for reframing the molecular disease model around an understanding of "advanced aging plus risk factors" helps to demystify a condition so often erroneously compared to polio and other discrete diseases, and fosters more realistic expectations for how we might intervene in the brain aging process across the life course.

While it seems logical that "AD" should refer only to presenile cases, as the authors suggest, the penetrance of this disease terminology in our cultural lexicon – wherein "AD" has become ageless and almost shorthand for any form of memory loss – means that the eponym "Alzheimer’s" is likely here to stay. However, small modifications in our language could better honor Dr. Alois Alzheimer's memory and draw us closer to scientifically accurate understandings (7,8). For instance, referring to "Alzheimer's diseases" (plural) or "Alzheimer's syndrome" would eliminate the fearsome specificity that has become associated with the German psychiatrist's surname while alluding to the age-related, heterogeneous, and multi-factorial nature of brain aging. In a perfect world, society might view what we now call "AD" simply as "brain aging": a condition occurring along a variety of biological and clinical continua, which affect us all in matters of degree across the life course. Instead of using arbitrary thresholds to create a sub-species of persons afflicted with "AD" or emerging pre-diagnoses such as "Mild Cognitive Impairment" (1,2,3,4,5), this model could foster solidarity with those more severely affected by changes we may all face if we live long enough.

Furthermore, accepting the age-related nature of "AD" and embracing a lifespan model can nurture more imaginative approaches to delaying the negative effects of brain aging and preventing the more severe deficits associated with age-related changes (8). Such a perspective would be inclusive of genes and biology, while paying needed serious attention to such variables as diet, physical activity, psychosocial factors, environmental exposures, access to healthcare, head injuries, lifelong learning, etc., and considering the "upstream-downstream" impact of these factors from *in utero* through the end stages of one's life as well as the social, political, and economic context in which these risk factors occur and can be ameliorated (9).

Such a re-imagining of "AD" also invites self-reflection and humility about the nature of the challenge we face. Our shared vulnerabilities to brain aging processes can create unity across the generations, and guide us in designing local communities as places capable of embracing aging populations with empathy and creativity inclusion. In such communities, people with dementia should find purpose, valued social roles, and acceptance rather than the stigma, marginalization, and fear fomented by the molecular disease model. The world should not be divided into two groups of people: those with

AD and those afraid of getting it. In Cleveland, we are trying to develop such communities based around intergenerational learning environments, and have demonstrated benefits for persons with dementia who actively participate in these community spaces (10). In short, true hope can emerge from our common humanity and commitment to each other far more powerfully than the false hope of a silver bullet fix to brain aging.

Indeed, brain aging demands a deeper and broader form of contextualized thinking. As we progress into an uncertain future defined by ecological challenges and depletion of natural and social resources, nothing short of the reinvention of aging and the rediscovery of environmentally-friendly and inclusive communities will be necessary. Hence, re-imagining what "AD" is and is not will help us appreciate our shared risks and common humanity, and may contribute to greater quality of life for aging persons in our aging cultures. Reframing "Alzheimer's" as more than a scientific and clinical problem and viewing it from a social gerontological perspective will open our minds to new ways of adapting to an increasingly troubling future. Alzheimer's can be a long lever with which we can shift the axis of our global thinking and, in the process, act locally to focus on care and not just on cure. What we need is the courage and common effort to challenge the “experts”, resist the “emperor”, and work together to create creative, child and elder-friendly, sustainable communities that support those with cognitive challenges.

References

1. Sperling R, Beckett L, Bennett D. Criteria for Preclinical Alzheimer's Disease. June 2010. Unpublished manuscript available at http://www.alz.org/research/diagnostic_criteria/

2. Albert M, DeKosky S, Dickson D. Criteria for Mild Cognitive Impairment Due to AD. June 2010. Unpublished manuscript available at http://www.alz.org/research/diagnostic_criteria/

3. McKhann G, Hyman B, Jack C. Criteria for AD Dementia. June 2010.

July 2010 Unpublished manuscript available at http://www.alz.org/research/diagnostic_criteria/

4. Dubois B, Feldman H, Claudia J, et al. 2010. Revising the definition of Alzheimer's disease: a new lexicon. The Lancet Neurology 9:1118-27.

5. Schneider LS. Organising the language of Alzheimer's disease in light of biomarkers. Lancet Neurol. 2010 Nov; 9(11):1044-5.

6. Chen et al, 2010. Scientific Truth or False Hope? Understanding Alzheimer's Disease from an Aging Perspective. JAD (In this issue)

7. Whitehouse P, George, DR. The Myth of Alzheimer's : What You Aren't Being Told About Today's Most Dreaded Diagnosis. New York: St. Martin's Press; 2008.

8. George D.R. Overcoming the social death of dementia through language. The Lancet 2010;376:586-7.

9. Fotuhi M, Hachinski V, Whitehouse PJ. Changing perspectives regarding late-life dementia. Nat Rev Neurol 2009;5:649-58.

10. George D, Whitehouse, PJ. Can Intergenerational Volunteering Enhance Quality of Life for Persons with Mild to Moderate Dementia?: Results from a 5-month mixed methods intervention study in the United States. Journal of the American Geriatric Society. Journal of the American Geriatrics Society 2010;58:796.