Abstract Submitted
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Glucose and Aging JOHN T.A. ELY, University of Washington — When a human's enzymes attach glucose to proteins they do so at specific sites on a specific molecule for a specific purpose that also can include ascorbic acid (AA) at a high level such as 1 gram per hour during exposure. In an AA synthesizing animal the manifold increase of AA produced in response to illness is automatic. In contrast, the human non-enzymatic process adds glucose haphazardly to any number of sites along available peptide chains. As Cerami clarified decades ago, extensive crosslinking of proteins contributes to loss of elasticity in aging tissues. Ascorbic acid reduces the random non-enyzmatic glycation of proteins. Moreover, AA is a cofactor for hydroxylase enzymes that are necessary for the production and replacement of collagen and other structural proteins. We will discuss the relevance of "aging is scurvy" to the biochemistry of human aging.

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