

## Chapter 1 : Elastin and Elastases, Volume II - CRC Press Book

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This article has been cited by other articles in PMC. It is unknown whether obese individuals with prehypertension also have elevated neutrophil elastase, and if so, whether it has a deleterious effect on pulmonary function. To determine neutrophil elastase levels in obese prehypertensive women and investigate correlations with pulmonary function tests. Methods Thirty obese prehypertensive women were compared with 30 obese normotensive subjects and 30 healthy controls. The study groups were matched for age. The following were determined: Results Serum neutrophil elastase concentration was significantly higher in both prehypertensive Conclusion Neutrophil elastase concentration is elevated in obese prehypertensive women along with an increase in high sensitivity C-reactive protein which may account for dyslipidemia and airflow dysfunction in the present study population. Background The seventh report of the Joint National Committee JNC-7 proposed a new classification distinguishing between individuals with normal blood pressure and established hypertension. Prehypertension is a risk factor for overt hypertension [ 3 ] and future cardiovascular disease events [ 4 ]. Leukoprotease activity was first described early in the 20th century but human neutrophil elastase NE was only identified relatively recently [ 6 ]. Intracellular NE is a key effector molecule of the innate immune system, with potent antimicrobial activity against Gram negative bacteria [ 7 ], spirochetes [ 8 ] and fungi [ 9 ]. Its best-known extracellular manifestation is connective tissue digestion. NE is capable of digesting virtually every type of matrix protein, including elastin [ 10 ]. Because of its unique elastic recoil properties, elastin is vital for conferring elasticity on arteries, lungs, ligaments and skin [ 11 ]. Biologically, NE is considered a secretagogue for cytokines [ 12 ] and a modulator of inflammation [ 13 ]. Alpha-1 antitrypsin is the major specific inhibitor for NE [ 14 ]. Alpha-1 antitrypsin is an acute phase protein derived from liver and its concentration rises during inflammation; it inhibits NE to prevent tissue injury in target organs [ 15 ]. This imbalance might be due to an increased elastase load following neutrophil influx, a reduction in the levels or activity of the circulating inhibitors of this enzyme, or increased non-apoptotic neutrophil death [ 21 ]. It is unknown whether obese individuals with prehypertension also have elevated NE, and if so, whether it has a deleterious effect on pulmonary function. The aim of the present study was to investigate the level of serum elastase in obese prehypertensive women and to investigate correlations with pulmonary function tests. Group 1 included 30 obese prehypertensive women. Group 2 included 30 obese normotensive women. Group 3 included 30 non-obese, age-matched normotensive women control group. The mean ages were The obese patients were attending obesity clinics at the Specialized Medical Hospital. All patients signed an informed consent to be included in our study.

## Chapter 2 : Elastin and Elastases, Volume I - | SlugBooks

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## Chapter 3 : Elastin and Elastases, Volume I - CRC Press Book

*Volume I explains elastin, its biosynthesis, physicochemical properties, and alteration in a variety of pathologies and with aging. Volume II describes elastases, their physiological and pathological roles and their control by natural and synthetic inhibitors.*

## Chapter 4 : - Elastin and Elastases, Volume II by Ladislav.; William Hornebeck Robert

*Degradation of elastin, the main amorphous component of elastic fibers, by elastases belonging to the serine, metallo,*

*or cysteine families leads to the generation of elastin fragments, designated as elastokines in keeping with their cytokine-like properties.*