

ERS
ATS

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SEPAR

**[ATS] Alpha 1 - Antitrypsin
Deficiency And
Abdominal Aortic
Aneurysms: Does This
Association Really Exist?**

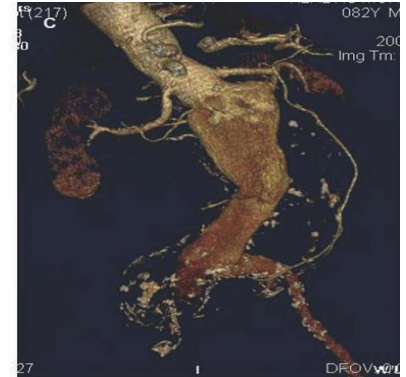
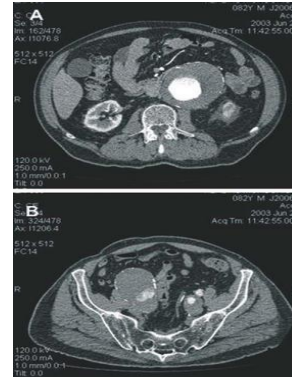
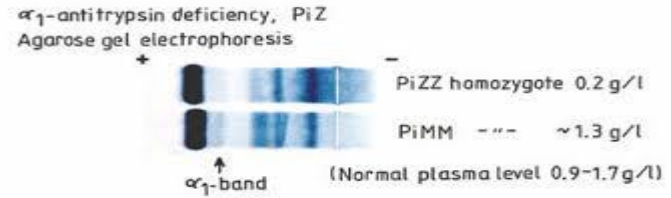
Pini L, Bonardelli S,
Ferrarotti I, et al.



Hipotesis



- A1AT is one of the major protease inhibitors present in human plasma
- An underlying structural defect of the extracellular matrix (ECM) is always present and the loss of elastic fibers is an early step in AAA formation.



Therefore, AATD seems to be a reasonable risk factor for AAA because it is related to protease/anti-protease imbalance and enhanced degradation of ECM of the vessel wall.



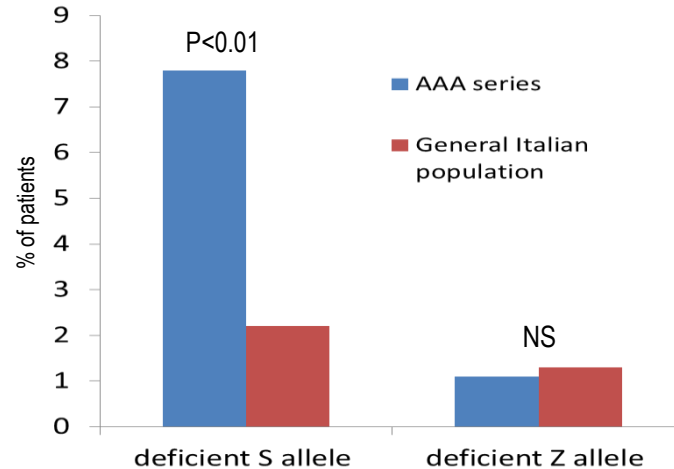
Objectives

- To investigate the distribution of AATD genotypes in 138 consecutive patients hospitalized for non-traumatic rupture of AAA.
- The second purpose was to observe the distribution of the main non genetic risk factors for AAA between patients: with and without AATD.

Results

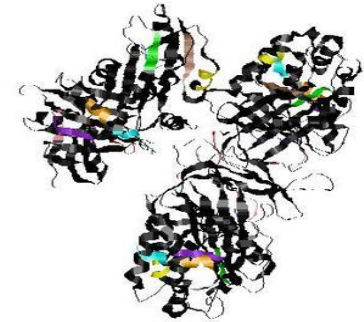


Out of 138 patients, 20 were found with A1ATD: 16 MS, 1 SS, 3MZ and 2 with new rare normal variants of AAT



AAA patients with and without AATD we found no differences in terms of age, gender, hypertension, diabetes and smoke habits, but hyperlipidemia was significantly less frequent in the group of patients with AATD (46.4 vs 12.5 % respectively, $P<0.05$).

Discussion



- **CONCLUSION:** In AAA patients the frequency of S allele was higher than in the general Italian population. Our preliminary results support the hypothesis that AATD might represent a risk factor for AAA.
- Previous reports:

α_1 -Antitrypsin Phenotypes in Patients with Abdominal Aortic Aneurysms

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Frequency of α_1 -Antitrypsin Phenotypes

α_1 -AT phenotypes	Inhibitory capacity (% normal)	Frequency	
		General population	AAA ^a patients
MM	100	95%	40/47 = 85%
MS	80	3-4%	2/47 = 4%
MZ	35	3-4%	5/47 = 11%*
ZZ	15	2-3%	0/47 = 0%

^a Abdominal aortic aneurysm.

* Significantly higher than expected binomial probability distribution, $P = 0.026$.

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