

# HEPATITIS B GENOTYPES

## PORTUGUESE POPULATION

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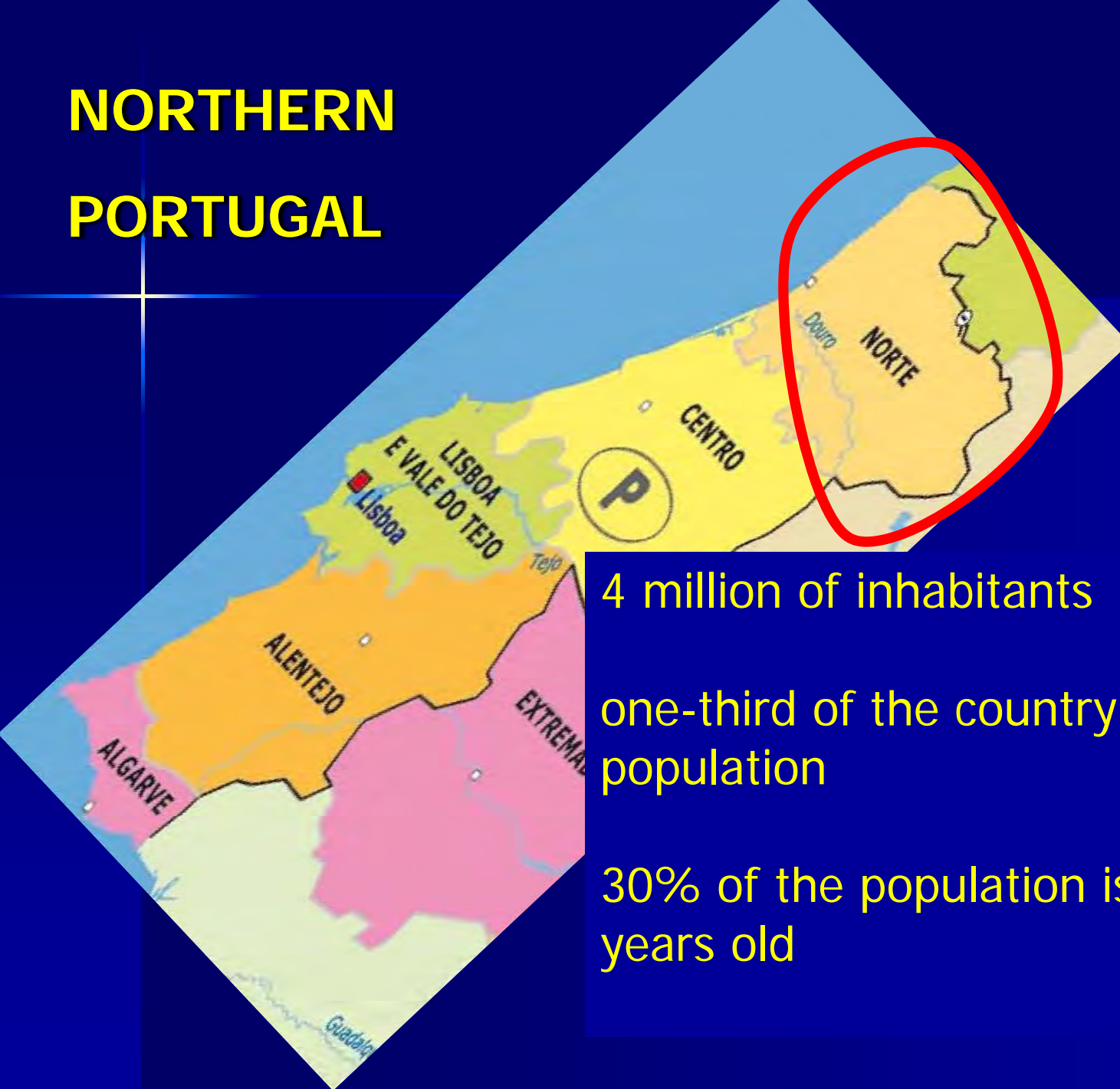


# PORTUGUESE POPULATION



- One of the oldest nations in Europe
- 10 million inhabitants
- $\leq 1\%$  chronically infected by Hepatitis B virus (HBV)
- $\sim 1$  million of alcoholic or excessive drinkers

# NORTHERN PORTUGAL



4 million of inhabitants

one-third of the country's total  
population

30% of the population is less than 25  
years old

# In the North of Portugal.. OPORTO



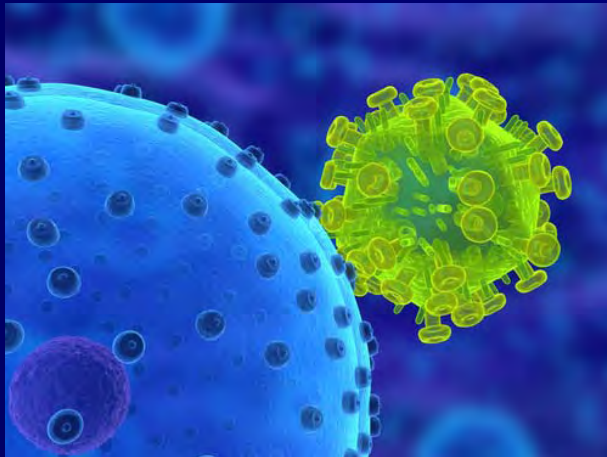
- Second large city after Lisbon
- 1 million of inhabitants
- 3 majors Hospitals: S. João, Joaquim Urbano and **S. António**

## Hospital S. António - Oporto



# AIM - I

To assess the characteristics and distribution of HBV genotypes in northern region of Portugal.



# AIM-II

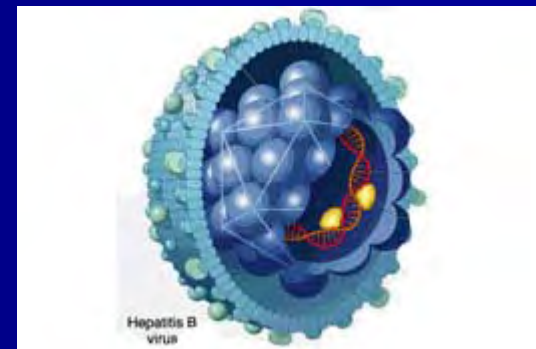
- Examine the possible associations between genotypes and:
  - viral transmission routes
  - Viral markers
  - Viral load
  - Biochemical tests of liver function
  
  - Gender
  - Habits of alcohol intake (less and greater than 20 g/day)

# STUDY POPULATION

- Patients with HBV infection, documented by the presence of HBsAg in serum for at least six months.
- These patients were observed in the two hospitals in the city of Oporto Joaquim Urbano (*Infectious Diseases*) and Hospital Santo António.

# STUDY POPULATION

- The study sample was about 400 patients with HBV infection.
- Tests were carried out for HBV viral markers, viral load and genotypes.
- Demographic information was obtained from the patient files.



# RESULTS

✓ 42.9% were women.



# RESULTS

GENOTYPE	PORTUGUESE		NON-PORTUGUESE		ORIGIN
	n	%	n	%	
A	103	(32.1)	4	(21.1)	2 from Central Europe, from Africa
C	0	(0.0)	2	(10.5)	China
D	201	(62.6)	4	(21.1)	2 from Oriental Europe, 2 from Africa
E	3	(4.0)	9	(47.4)	Africa
F	13	(4.0)	0	(0.0)	
D and F	1	(0.3)	0	(0.0)	
TOTAL	321	(100)	0	(0.0)	

The results indicate the predominance of genotypes:

**D (60.3%)**

**A (31.5%)**

# RESULTS

- ✓ Intrafamilial transmission was predominant in female patients.
- ✓ Males were infected in equal proportions by perinatal, sexual, and intrafamilial transmission.

# RESULTS

- ✓ **ABSENCE** of HBeAg was found in a significantly smaller proportion of female patients with genotype D as compared to A (56.6% vs. 82.1%,  $P = 0.028$ ).
- ✓ In male patients, a similar proportion (about 70%) was observed with both genotypes.

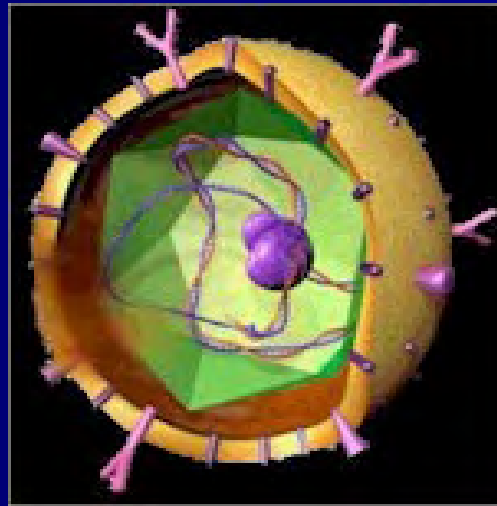
# RESULTS

- ✓ High viral load was associated significantly and independently with genotype D and HBeAg.
- ✓ Patients infected with genotype D had higher levels of HBV DNA.



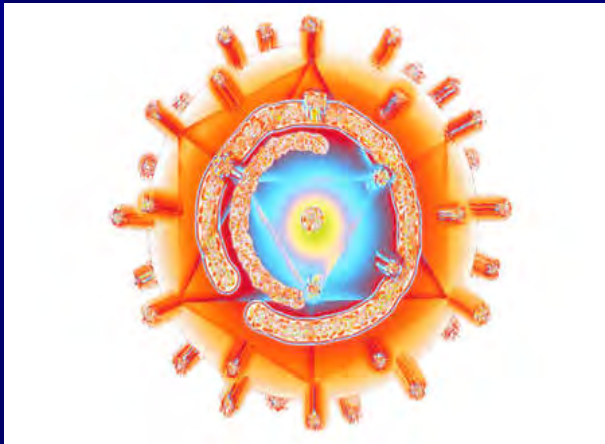
# RESULTS

- ✓ Both Alanine and Aspartate Aminotransferases (ALT and AST) were associated with gender and HBeAg.



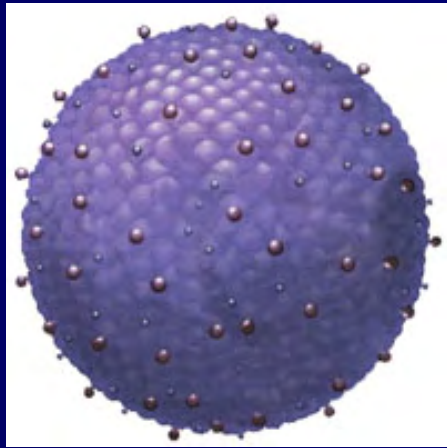
# RESULTS

- ✓ A higher percentage of males ( $p < 0.001$ ) was observed in the group with alcohol intake above 20g/day, as well as lower proportion of patients with HBeAg negativity ( $P \leq 0.035$ ).



# RESULTS

- ✓ A positive association between liver damage and alcohol intake was found, increasing with age in male gender.
- ✓ The proportion of individuals with HBeAg negativity and Anti-HBe positivity were significantly higher in the group with alcohol intake over than 20g/day ( $P \leq 0.035$ ).



These results also confirm other epidemiological observations that show a higher frequency of HBV serologic markers in chronic alcoholics compared with the general population.

# DISCUSSION

- ✓ These results are consistent with research that shows that genotype D is the most common genotype in Mediterranean countries.
- ✓ Men and woman differed in the distribution of presumed routes of transmission.

# DISCUSSION

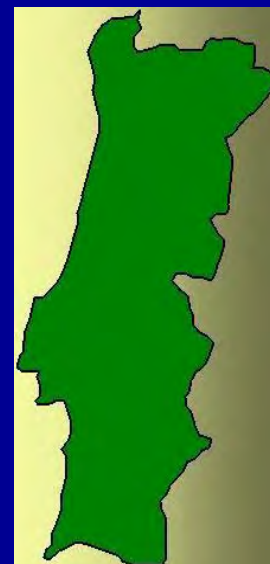
- ✓ HBeAg was associated with genotype D, viral load, ALT and AST.
- ✓ HBeAg is associated with more severe liver damage.

# DISCUSSION

- ✓ In these evaluations it's possible to describe the characteristics of HBV genotypes and their distribution in chronically infected individuals from northern of Portugal.

# DISCUSSION

In future investigations it will be very important to analyse the impact of genotypes on liver damage.





Sponsors:  
Fórum Hematológico do Norte  
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