HEPATITIS B GENOTYPES

PORTUGUESE POPULATION

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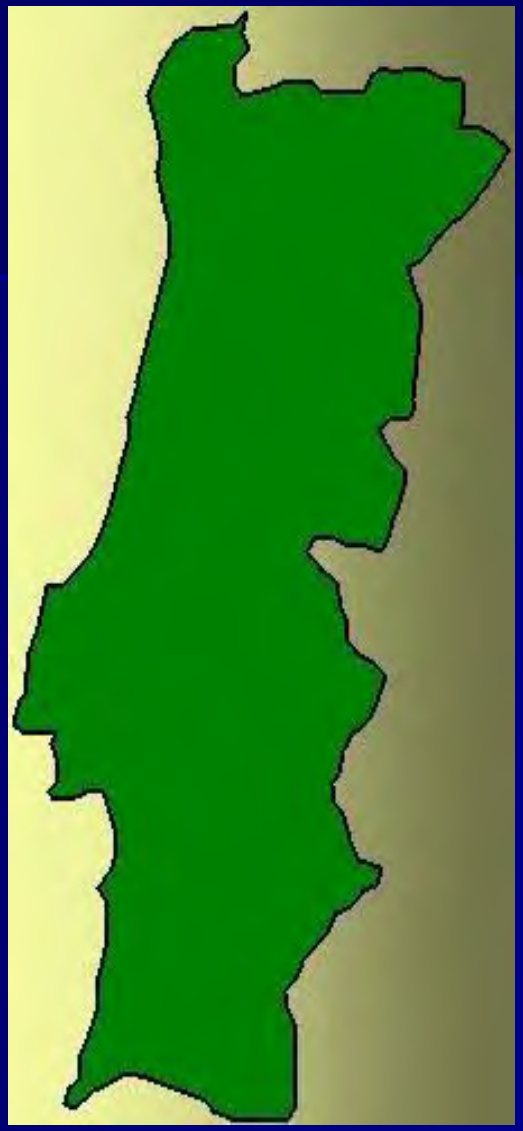
Viral Hepatitis Prevention Board

Lisbon 2010

centro hospitalar do Porto



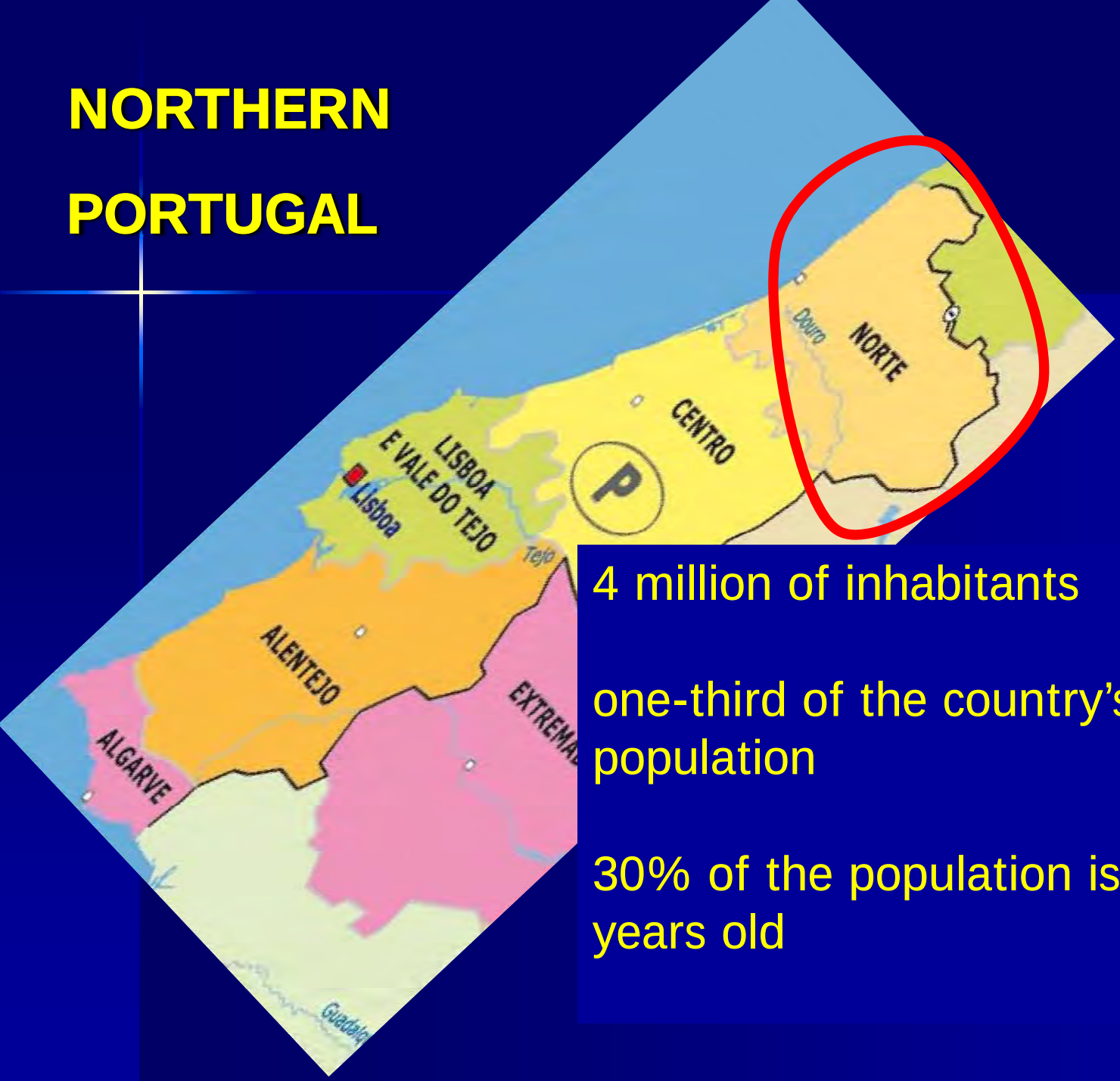
U.PORTO

INSTITUTO DE CIÊNCIAS BIOMÉDICAS ABEL SALAZAR
UNIVERSIDADE DO PORTO

PORTUGUESE POPULATION

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

NORTHERN PORTUGAL

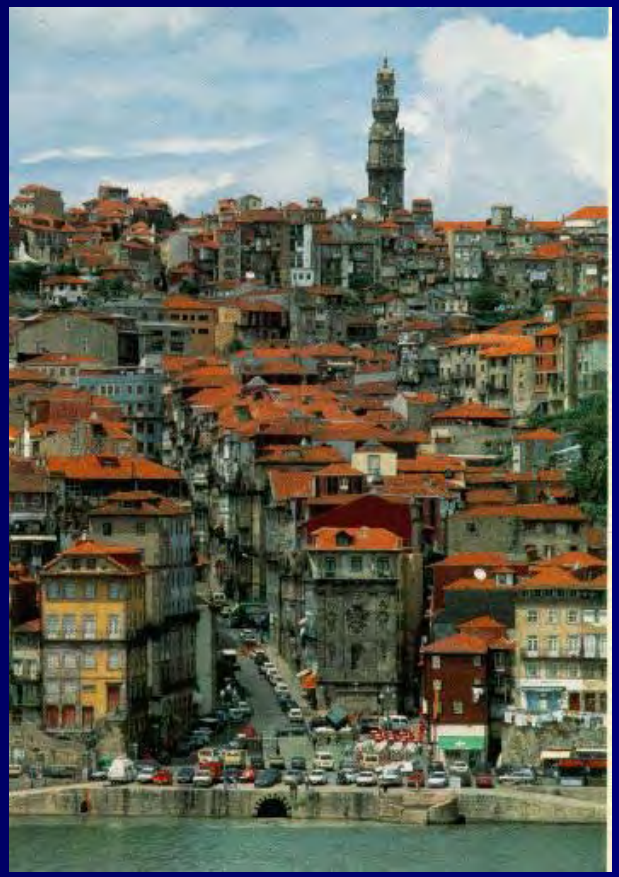


4 million of inhabitants

one-third of the country's total population

30% of the population is less than 25 years old

In the North of Portugal.. OPORTO

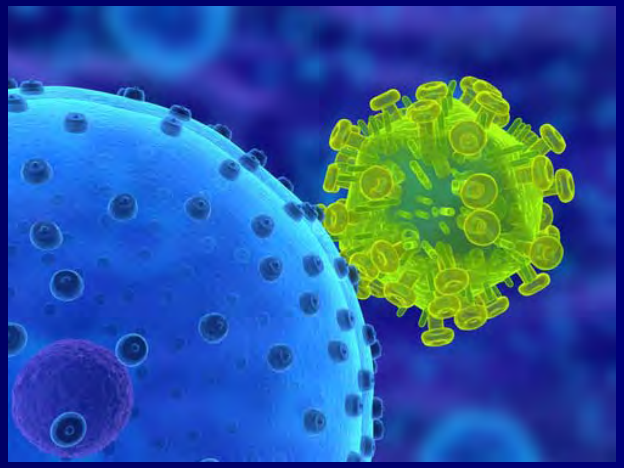


- Second large city after Lisbon
- 1 million of inhabitants
- 3 majors Hospitals: S. João, Joaquim Urbano and **S. António**


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)

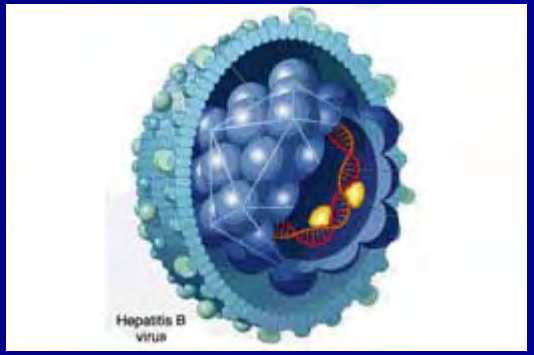
STUDY POPULATION

- 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 *(Infeccious 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.

Mota AP, Guedes F, Areias J, Pinho L, Cardoso MF._"Alcohol consumption among patients with hepatitis B infection in northern Portugal considering gender and hepatitis B virus genotype differences", *Alcohol*, 44 149e156, 2010.

RESULTS

	PORTUGUESE		NON-PORTUGUESE		
GENOTYPE	n	%	n	%	ORIGIN
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.

Mota AP, Guedes F, Areias J, Pinho L, Cardoso MF. “Perfil epidemiológico e genotípico da infecção pelo vírus da Hepatite B no Norte de Portugal / Epidemiological and genotyping profile of Hepatitis B virus infection in Northern Portugal”, *Revista de Saúde Pública Brasileira* (accepted for publication).

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.

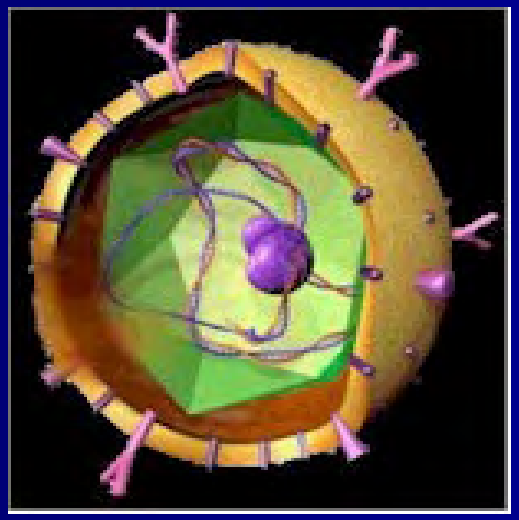
RESULTS

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

Mota AP, Guedes F, Areias J, Pinho L, Cardoso MF. "Epidemiological Study of Genotypes of Hepatitis B virus in Northern Portugal", *Journal of Medical Virology*, 81, 1170–1176, 2009

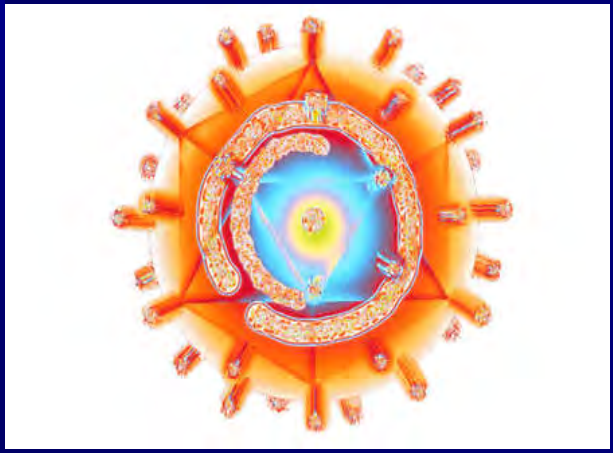
RESULTS

- ✓ 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≤0.035).

Mota AP, Guedes F, Areias J, Pinho L, Cardoso MF. "Alcohol consumption among patients with hepatitis B infection in northern Portugal considering gender and hepatitis B virus genotype differences", *Alcohol*, 44 149e156, 2010.

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

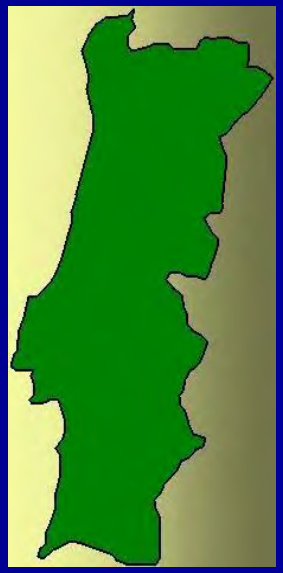
- ✓ HBeAg was associated with genotype D, viral load, ALT and AST.
- ✓ HBeAg is associated with more severe liver damage.

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.



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