

# Migration and viral hepatitis

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# Migration in Greece

- Historically, Greek people would migrate to USA, Australia and Western Europe.
- Greece did not have immigrants until recently.
- Dramatic political changes in the Balkans and Eastern European countries.

# Migration in Greece

- Since the beginning of 1990's immigrants from Albania, other Balkan countries and former USSR countries start coming into the country.
- They reside in both urban and rural areas and in the last census (2001) immigrants account for almost 10% of our population.

# Policy for immigrants and infectious diseases

- In order to get legal papers all immigrants and their families have to get a “health certificate”.
- Adults need a chest x-ray (r/o TB)
- Children need a Mantoux test + chest x-ray.

# Immigrants and Viral Hepatitis testing

- No serologic testing for viral hepatitis is required for:
  - health certificate
  - refugee camps
- So data on migration and viral hepatitis derived from individual studies from different areas of the country.

# Immigrants and HAV

- It is expected that people that grew up in areas with medium to high endemicity of HAV will be immune.
- In a study from Epirus a prevalence of 98.2% of anti-HAV antibodies was found in ~1000 immigrants from Albania 0-81 years old.
- Among pregnant Albanian women: 96.2%.
- In pediatrics, sporadic cases of hepatitis A in children post vacation when immigrant children visit home country.

# Migration and hepatitis B

- Many small studies with local data.
- Older study from Epirus found in Albanian immigrants very high prevalence of hepatitis B markers:
  - HBsAg: 22.2% , anti-HBc: 70.6%, HBeAg: 21.1%.
  - anti-HDV: 12.7%.
- Recent study from Athens area with 130 refugees from different areas of the world confirmed the high HBV infection rate in immigrants.

Dalekos G, et al. Eur J Gastroenterol Hepatol 1995  
Roussos A, et al World J Gastroenterol 2003

# Prevalence of HBV markers in immigrants residing in Athens

Ethnicity	N	HBsAg (+)	Anti-HBc (+)
Albania	76	17 (22.4%) <sup>a</sup>	54 (71%) <sup>a</sup>
E. Europe	35	0 (0)	8 (23%)
Asia	11	3 (27.3%) <sup>b</sup>	5 (45%) <sup>b</sup>
Africa	5	0 (0)	2 (25%)
Total	130	20 (13.4%)	69 (53.1%)

<sup>a</sup> P<0.008, <sup>b</sup> P<0.001



# Migration and hepatitis B

- Many studies have been performed in pregnant women (retrospective and prospective data).

Author, year publ.	Data collection	HBsAg
Malamitsi-Puchner A, et al. 1996	Retrospective, Albanian women (N=500), one center	13.4%, HBeAg(+): 7.5%
Panagopoulos P, et al. 2004	Retrospective data on 5,497 women over 8yrs one center	Immigrants: 4.67% Greek: 2.9%
Papaevangelou V, et al. 2006	Prospective on 3,760 women, whole country over 2 weeks	Immigrants: 5.7 % Albanian: 9.8%, Greek: 1.7%
Elefsiniotis L, et al. 2007	Prospective 2 year, one center (N=26,746)	Albanian:4.9%, E.Europe: 1.29%, Asian: 5.6%, Greek: 0.57% HBeAg(+): 2.67%

# Migration and hepatitis C

- Prevalence of HCV in Greek population: 0.4-0.8%
- In immigrant population prevalence: 1.75 – 2.3%.

Dalekos G, et al. Eur J Gastroenterol Hepatol 1995  
Roussos A, et al World J Gastroenterol 2003

# Prevalence of HCV antibodies in immigrants residing in Athens

Ethnicity	% Anti-HCV (+)
Albania	1.9
E. Europe	2.8
Asia	0
Africa	12.5
Total (N=130)	2.3

# Migration and hepatitis C

## In immigrant pregnant women:

- Retrospective study over 8 yrs from one center (N=5,497): 1.33%\*
- Prospective study, whole country over 2 weeks (N=3,760): 0.8%
- Prospective study, one center, one year (N=2,408): 4.82%\*\*

\* Greek: 0.16% \*\*E. Europe

Panagopoulos P et al. J Maternal-Fetal and Neonatal Med 2004.  
Papaevangelou V personal communication.  
Raptopoulou-Gigi M et al. Eur J Epidemiol 2001.

# Migration and viral hepatitis in Greece

## Conclusions (I)

Epidemiology of viral hepatitis have changed over the last 15 years with the increased number of immigrants:

- Increased number of acute hepatitis A in susceptible children of immigrant families traveling back to home country for vacation.
  - Need to reinforce vaccination of this high risk group.

# Migration and viral hepatitis in Greece

## Conclusions (II)

- Increased number of immigrants with chronic HBV infection. Implications for:
  - Health system burden over the next decades.
  - Early vaccination of infants and catch up vaccination of children and adolescents.
- Although immigrants are not tested routinely ; no issue with HCV infection.

# Integration of recent immigrants

- All these data pertains legal immigrants that have access to official health care services.
- It is reasonable to believe that recent immigrants
  - might have higher prevalence of viral hepatitis
  - they are at higher risk of both get infected and transmit it to others

