Background

With a prevalence of HBsAg carriage of 0.65% (2004) France belongs to the low endemic countries for hepatitis B infection. For most of these countries, acute hepatitis B is a mandatory notifiable disease (MND).

In France, the history of recent surveillance strategy is the following:
• MND stopped in 1985.
• Since then surveillance by a sentinel national network, through which incidence was estimated around 7500 cases per year at the beginning of the 90's, with an incidence decreasing over time.
• End of the 90’s:
  - too few cases detected through the surveillance system,
  - lack of precision to get accurate estimates of national incidence from sentinel network’s data and properly describe the risk factors.
• 1999-2002: global revision and anonymisation of the entire mandatory reporting system,
• 2003: MND re-implemented for acute hepatitis B.

History of vaccination strategies in France
• 1982: Selective vaccination targeted to high risk groups.
• 1992: Based on North-American experience, World Health Assembly recommendation of “universal” vaccination in all countries.
• 1994-1995: Adoption, in addition to the selective vaccination, of a 2-components vaccination strategy: HB vaccination included in infant vaccination schedule,
• School-based vaccination campaigns for 11 year olds for a HB vaccination included in infant vaccination schedule,

• Infant vaccination: moderate coverage (30%).
• Pre-teens: high coverage (75 to 80%).
• High-risk populations: vaccination well beyond the target populations.
  - More than 75 millions doses sold by the end of 1997.
  - More than 84% of these sales since 1994.
  - More than 1/3 of the French population vaccinated.

Methods

Case definition
• A case of acute hepatitis B is defined as any person found positive for the first time for Anti-HBc immunoglobulins (Anti-HBC IgM).
• In absence of IgM anti-HBC testing: first time positive results of both HBs antigen and total anti-HBc antibodies, in a clinical context of acute hepatitis B (ALT > 20, with or without jaundice).

Information collected
• Patient’s characteristics
  - Anonymous, irreversible code computed by the biologist
  - Year of birth, sex, place of residence
• Biological data
  - Anti-HBc antibodies (IgM and total) HBs Ag, ALT
• Clinical data and evolution
  - Precision if past history of liver disease.
• Vaccination status.

Results

860 notifications (March 2003- December 2005)
(2005 data are provisional)
  • 171 with a confirmed past history of HBsAg carrier;
  • 70 had an hepatitis B reactivation;
  • 243 did not meet the case definition criteria (156 in 2003, 56 in 2004 and 31 in 2005);
  • 5 foreign patients admitted for liver transplantation;
  • 33 could not be validated for lack of clinical information.
• 413 cases of acute hepatitis B
  • 137 in 2003
  • 139 in 2004
  • 137 in 2005

413 cases of acute hepatitis B
The epidemiological characteristics of the cases did not change over time, therefore the results are presented globally for the 3 years of surveillance.
• Reporting clinician: hospital physician 59%.
• Sex ratio M/F: 2.4 (291/122).
• Peak of incidence: cases aged 30 to 39 years.

Discussion

• Reporting improving over time with a better respect of case definitions.
• Figures lower than at the beginning of the 90’s with likely under-reporting (only 41% by private practitioners).
• However, even when taking into account underreporting, data very much in favour of a decrease in incidence since beginning of the 90’s.
• Cases characteristics similar to those described in the early nineties.
• Figures concerning potential risk factors identical to those found by the «Sentinelle» network except for IVDU.
• Shift of the peak of cases from the 20-29 years age group to the 30-39 (see fig. 3).
• Likely impact of vaccination of teenagers in the 90s.

Nevertheless:
• 247 cases (64.5%) could have been avoided if vaccinated according to recommendations (although we do not know the time sequence as far as family risk is concerned).
• 2 babies born to HBsAg+ mothers, 1 died

Conclusion

• First years following MND implementation: analysis of cases already informative, in favor of a decrease in incidence, trends to be analysed over time later on.
• Further steps are necessary: Evaluate under-reporting to be able to refine incidence estimates,
  - Improve system performance,
  - Enhance preventive measures; improve screening, increase vaccination coverage (infants, teenagers and population at risk).