Adaptation or simplification of Hepatitis A vaccination programmes

Results of the EUROHEP.NET feasibility survey

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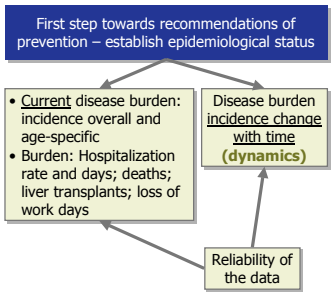
Objectives

- To compare the incidence change with time (incidence dynamics) between the participating countries.
- To compare the dynamics with one country (Israel) with a background of intermediate endemicity, where universal use of vaccine started in 1999.
- To elaborate recommendations for hepatitis A prevention programmes, especially in the countries with changing prevalence.

Methods

- 19 countries (AT, BE, BG, CZ, EE, DE, GR, HU, IL, IT, LV, LT, LU, MT, PL, RO, SK, SL, UK) participated in the EUROHEP.NET survey (2003).
- Based on the results of this survey and on literature and worldwide evidence regarding HAV vaccination, the countries were divided in four groups.
  1. One country in which universal vaccination was started
  2. Countries that reported constant high and intermediate rate of disease
  3. Countries that reported constant low disease rate
  4. Countries that initially reported high rates of HA disease but in last years have a fast decrease in rates
- The epidemiology of groups 2-4 was compared to that of country 1, and various recommendations were suggested.

Recommendations of prevention



Universal Immunization

Because of their high disease incidence and their critical role in transmission, **young children** should be the primary focus of immunization strategies. Routine childhood immunization will achieve:

1. Prevention in age groups that account for at least 1/3 of the cases
2. Eliminate an important source of infection for other children and adults
3. Increase the rate of immune persons in the society (HAV vaccine provides long-lasting immunity)

Risk groups for whom vaccination may be of immediate benefit

1) Risk behavior
- IV Drug Users and non-IV Drug Users
- Men who have Sex with Men
- international travelers to endemic areas
- pre-school children attending day care centers

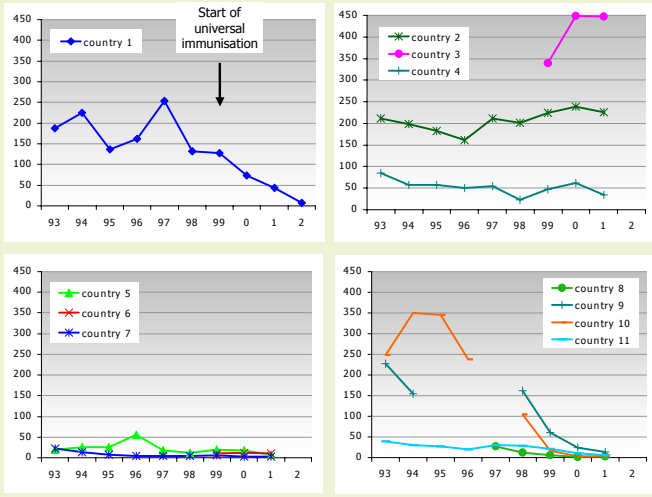
2) Medical risks
- chronic liver disease patients
- clotting factors disorder patients

3) Occupational
- medical and paramedical personnel in hospitals including kitchen staff and cleaners
- day care center personnel
- food-service establishment workers/food handlers

4) Others
- persons residing in areas of extended community outbreaks
- residents and staff of closed communities (psychiatric Institutions and Institutions for mentally disabled)
- refugees residing in temporary camps
- contacts of infected persons (post-exposure prophylaxis)
- children of migrants before visiting their parents' home country
- other risk groups

Incidences as surrogate for vaccination need

Incidence (per 100,000) of HAV disease, age 1-14 years: 3 different patterns in 10 countries without universal immunization and one country (country 1) with a universal immunization program since 1999 (years 1993-2001)



FOOTNOTES

- The graph provides examples of how dynamics may influence decisions regarding to immunization practices.
- Country 1 had relatively constant high rates of HAV disease in children 0-14 yrs of age. In mid 1999 universal vaccination of toddlers was initiated and the incidence rapidly started to fall. This is compared to:
  - Countries 2-4: Relatively high incidence that does not seem to decrease -which suggests that universal vaccination may be helpful.
  - Countries 5-7: low and relatively constant incidence that suggests that universal immunization is of very low priority.
  - Countries 8-11: A high initially reported rate of HAV disease is rapidly falling to very low incidence in only a very few years - a dynamics that is even more impressive than that of country 5 that uses a universal vaccination plan.

Discussion

- WHO Position Paper: *Weekly Epidemiological Record 5:38-44, 2000*
  - An estimated 1.5 million clinical cases occur worldwide yearly.
  - In *highly* endemic countries, almost all persons are asymptomatically infected with HAV in childhood, which prevents hepatitis A later. In these countries, large scale vaccination programs are not recommended.
  - In countries of *intermediate* endemicity, where a relatively large proportions of the adult population is susceptible, and hepatitis A represents a significant public health burden, often with large outbreaks, large scale childhood vaccination may be considered as a supplement to health education and improved sanitation.
  - In regions of *low* endemicity, vaccination is indicated for individuals with increased risk, such as travellers to endemic areas.

  WHO does not define high, intermediate or low incidence regions by specific incidence rate.
- Goals of preventing HAV through routine immunisation:
  1. Protect persons from infection.
  2. Reduce disease incidence by preventing transmission.
  3. Ultimately eliminate transmission
- Comparisons between countries and vaccination policies will be function of:
  - For reliable data, it is necessary to establish quality control and collect data in an accepted, standardized way using common definitions.
  - The only way to achieve consensus and common policy is a uniform surveillance, with uniform measurement and reporting, which should be a pre-requisite for such programmes.
  - Standardisation is necessary: case definition, HAV national surveillance, notification policy, detect outbreaks, monitor trends, disease burden parameter, standardize questionnaires, case definition, coverage goals, outcome goals, reimbursement policies.
  - When data are judged reliable, the communities can be grouped to those with low *rate*, intermediate rate and high rate of HAV disease. The overall rate is not sufficient: age-specific rates, regional variations, variations by ethnic groups and risk groups are important.
  - Once the rate is established - the *dynamics* should be looked at, and then the estimate of burden of disease.
- Vaccination policies will be function of the reviewed above.
  For comparison between regions, communication between all agencies/bodies studying epidemiology and burden of HAV disease is conditio sine qua non.
- Examples of strategies for immunizing children in communities (populations, regions) where vaccination is judged as needed are: Immunize only children <2 years; Immunize several cohorts (especially pre-school individuals catch-up); add also children > 15 yrs;…