Incidence, complications and mortality of invasive meningococcal disease (IMD) in Europe: results from a systematic literature review

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BACKGROUND

Invasive meningococcal disease (IMD) is a serious bacterial infection caused by Neisseria meningitidis, which is divided into serogroups based on different capsular polysaccharides and external protein membranes.

However, meningococcal meningitis may vary temporally, geographically and with age, and even threat of IMD can be prevented by vaccination. It continues to be a global public health concern due to its systemic infection and sequelae.

RESULTS

Out of 140 identified articles with IMD data reported in EU-27, 74 presented data on clinical presentation (data from 16 EU27 countries) and 37 presented data on clinical presentation by serogroup (data from 11 EU27 countries) (Figure 1-3).


data presentation by serogroup (data from 11 EU27 countries) (Figure 1-3).

IMD sequelae

- Typically, a sepsis is a clinical condition that is an irremediable complication which follows a minor acute condition.

- Overall rate of sepsis reported was up to 58% (range: 0.8-67.4%), n=34 estimates without information on serogroup.

- Our results showed the risk to develop sequelae by serogroup: periparottis B (range: 0.3-3.7%, n=7 estimates)

- Sequelet W (range: 2.5-15%, n=7 estimates)

- Serogroup Y (range: 12.0-36%, n=7 estimates).

DISCUSSION

The clinical course of IMD is frequently complicated by neurologic and physical complications. It can be noticed than 18% of IMD survivors are affected by a broad range of long term complications (figure 8A). This percentage may be up to 36% among younger people.

IMD sequelae can have an enormous financial and emotional impact on families.

CONCLUSIONS

This review reports the IMD clinical burden and the results of its incidence, mortality, acute sequelae and complications between 2002 onwards, for all age groups and serogroups. It highlights the important morbidity of IMD with variation according to serogroup and age groups. It can help to control the burden of IMD in Europe through immunization and disease prevention. This burden is a major cause of death, illness, pain, discomfort and financial costs. This burden to society is due to the unpredictability of infection, striking otherwise healthy people, coupled with the poor evidence of disease prevention and treatment.

REFERENCES

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DISCLOSURES

The literature review was sponsored by Sanofi Pasteur

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