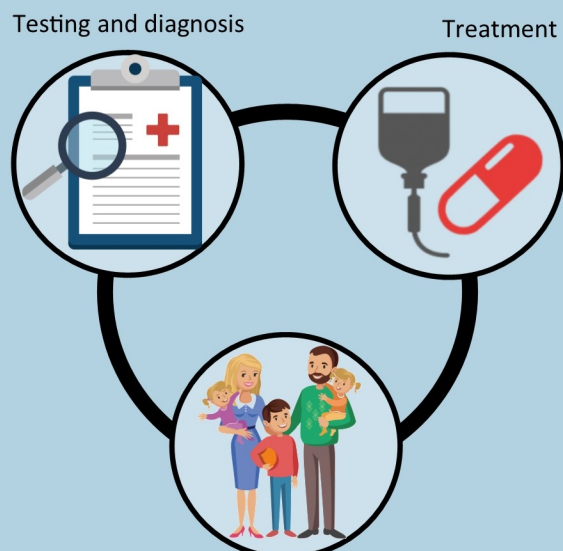


Infectious complications affect patient's outcome

The use of immunosuppressive therapies in the treatment of non-malignant immune-mediated hematologic disorders (ITP, TTP, AIHA, acquired coagulation factor deficiencies, antiphospholipid syndrome, atypical hemolytic uremic syndrome) leads to an increased risk of infections. As these infectious complications can affect a patient's outcome, preventive strategies such as infectious disease screening and appropriate immunization are indicated with specific treatments.

The present brochure summarizes available recommendations from governmental agencies and medical societies.



Preserving lives by preventing complications

Rituximab

Hepatitis screening: Hepatitis B screening (Hepatitis B surface antigen - HBsAg, and total hepatitis B core antibody - anti-HBc), and Hepatitis C screening (anti-HCV)

Immunization

- Streptococcus pneumoniae***
 - One dose of PCV13 (Pneumnar) or 1 dose of PPSV23 (Pneumovax) if uncertain time to splenectomy.
 - One dose of PCV13 (Pneumnar) followed by PPSV23 (Pneumovax) \geq 8 weeks later if known plan for splenectomy. PPSV23 every 5 years.
- Haemophilus influenzae:*** One dose, no booster is necessary.
- Neisseria meningitides***
 - 2 doses of MenACWY (Menactra) at least 8 weeks apart or 2 doses of MenB-4C (Bexsero) at least 1 month apart if uncertain time to splenectomy.
 - 2 doses of MenACWY (Menactra) at least 8 weeks apart and 2 doses of MenB-4C (Bexsero) at least 1 month apart if known plan for splenectomy.
 - Repeat MenACWY and MenB-4C every 5 years.
- Influenza virus vaccine annually***
- Herpes Zoster vaccine if \geq 50 years-old***

Comments

- ◆ Misleading (false positive) Hepatitis B core antibody test results can occur in patients treated with intravenous immunoglobulin (IVIG). Serology should be obtained before IVIG or 3 months after IVIG administration.
- ◆ Immunization should be administered at least 2 weeks prior to instituting therapy, in anticipation that some patients will eventually require splenectomy.
- ◆ Counsel patients on potential risk of vaccine unresponsiveness after rituximab therapy.

Eculizumab

Immunization

- Neisseria meningitides***
 - 2 doses of MenACWY (Menactra) at least 8 weeks apart or 2 doses of MenB-4C (Bexsero) at least 1 month apart if uncertain time to splenectomy.
 - 2 doses of MenACWY (Menactra) at least 8 weeks apart and 2 doses of MenB-4C (Bexsero) at least 1 month apart if known plan for splenectomy.
 - Repeat MenACWY and MenB-4C every 5 years.
- Influenza virus vaccine annually***
- Herpes Zoster vaccine if \geq 50 years-old***

Antibiotic prophylaxis

- ◆ If eculizumab is given before vaccination, antibiotic prophylaxis against *N. meningitides* is recommended and it should be continued until at least 2 weeks after vaccination (e.g. penicillin at 500 mg orally twice daily)
- ◆ Because eculizumab recipients remain at risk for meningococcal disease even after vaccination, some health care providers in the U.S. and in other countries recommend antimicrobial prophylaxis for the duration of eculizumab treatment since a lifelong course of therapy is expected for many patients.

Comments

- ◆ Immunization should be administered at least 2 weeks prior to instituting therapy.
- ◆ Both vaccines can be administered the same day but in different anatomic sites.
- ◆ Enrollment in the Risk Evaluation and Mitigation Strategy (REMS) is highly recommended by the FDA.
- ◆ Educate patients about early signs of meningococcal infection (fever, rash, mental status changes).

Surgical Splenectomy

Immunization

a. *Streptococcus pneumoniae*

- One dose of PCV13 (Pneumovax) or 1 dose of PPSV23 (Pneumovax) if uncertain time to splenectomy.
- One dose of PCV13 (Pneumovax) followed by PPSV23 (Pneumovax) ≥ 8 weeks later if known plan for splenectomy. PPSV23 every 5 years.

b. *Haemophilus influenzae*: One dose, no booster is necessary.

c. *Neisseria meningitidis*

- 2 doses of MenACWY (Menactra) at least 8 weeks apart or 2 doses of MenB-4C (Bexsero) at least 1 month apart if uncertain time to splenectomy.
- 2 doses of MenACWY (Menactra) at least 8 weeks apart and 2 doses of MenB-4C (Bexsero) at least 1 month apart if known plan for splenectomy.
- Repeat MenACWY and MenB-4C every 5 years.

d. *Influenza virus vaccine annually*

e. *Herpes Zoster vaccine if >50 years-old*

Antibiotic prophylaxis

In our practice, since epidemiological data shows an increased risk of overwhelming post-splenectomy infection within the first 2 years after splenectomy, we give penicillin V 500 mg oral twice daily for the first 2 years after spleen removal. Also, we provide and educate patients to take amoxicillin/clavulanate 875/125 mg every 12 hours in case of animal bites and to seek medical attention.

Comments

- ◆ Immunization is preferred 4 to 6 weeks prior to surgery.
- ◆ In patients who have received PCV13, 5 years or more ago, repeat 1 dose of PCV13 followed by PPSV23 ≥ 8 weeks later.
- ◆ Malaria prophylaxis for travelers to endemic areas.
- ◆ Educate patients for signs of infection and to seek medical attention if fever.



Blood Research Center



▶ References:

Hematology Am Soc Hematal Educ Program

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ASH 2020 Virtual Meeting

Educational Session

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Guidance
for the prevention of infectious
complications in adults
receiving **rituximab**, **eculizumab**,
and undergoing **splenectomy**
for non-malignant immune-
mediated hematologic disorders



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