

Guidelines for management of asplenia / hyposplenia in Adults

Scope and Purpose:

These guidelines have been developed for the management of adult patients with asplenia or functional hyposplenia. Patients with asplenia or hyposplenia [sickle cell disease, some patients with coeliac disease] are at increased risk of overwhelming bacterial infection. The onset of infective symptoms may be extremely rapid and death may occur in hours. The risk *may not* diminish with time post-splenectomy. It is highest in those who have had a splenectomy for lymphoproliferative disease [NHL, CLL] or those with concomitant liver disease. Patient education has important role as studies have shown eleven to fifty per cent of postsplenectomy patients are unaware of the increased risk for serious infection.

Guidelines:

Antibiotic prophylaxis

1. All patients, regardless of underlying condition, should be on lifelong antibiotic prophylaxis. This should be either Penicillin V or Amoxicillin, with a preference for Penicillin V.

Adult doses:

Penicillin V 500 mg b.d.

Amoxicillin 500 mg o.d.

2. For penicillin allergic patients, Erythromycin 250 mg b.d. should be used.

3. Patients travelling to areas where penicillin-resistant pneumococci have been identified [e.g. Spain, Southern France, S. Africa, USA, SE Asia] should be switched from Penicillin V to Erythromycin before travelling and for one week after return.

Immunisation

4. Asplenia in itself is not a contraindication to routine immunisation. Normal inoculations, including live vaccines, can be given safely to adults with absent or dysfunctional spleens.

5. All splenectomised patients and those with functional hyposplenism should receive pneumococcal immunisation; the combined Haemophilus influenzae type B (Hib) and meningococcal C vaccine (MenC) [Menitorix] conjugate vaccine as soon as possible. For pneumococcal vaccination the 23-polyvalent pneumococcal vaccine [Pneumovax] should be used.

6. Patients undergoing elective splenectomy should receive Pneumococcal, Hib/MenC at least two weeks before surgery. Even after splenectomy these three vaccines should be given (when patient clinically better/prior to discharge), as there may be some

benefit. Immunisation, however, should be delayed at least six months after immunosuppressive chemotherapy (including steroids) or radiotherapy, during which time prophylactic antibiotics should be given

7. Antibody titres to pneumococcus and Hib should be measured annually. Revaccination should be undertaken if the antibody levels are low. Some patients fail to respond to Pneumovax. Patients who fail to respond to 2 doses of Pneumovax should be test immunised with heptavalent conjugate vaccine [Pneumovax]. Persistent non-responders should be discussed with Adult Immunology Teams [see below]. Patients with low Hib titres should be revaccinated with the combined Hib/MenC vaccine Menitorix. No satisfactory assay exists for determining protective levels of meningococcal antibodies and levels should not be performed.

Thresholds for revaccination are:

Pneumovax <35 mg/l

Hib <1.5 mg/l

8. All adults should receive an annual Influenza immunisation.

9. Patients travelling abroad to high risk areas, especially to the Middle East, should receive a dose of the Meningococcal A+C, W135 & Y vaccine

Treatment of acute infection

10. For patients not allergic to penicillin a supply of amoxicillin should be kept at home (and taken on holiday) and used immediately (1gm initially followed by 500mg t.d.s.) should infective symptoms of raised temperature, malaise, or shivering develop. In such a situation the patient should seek immediate medical help. Any asplenic/hyposplenic patient who develops a sudden febrile illness should be treated promptly with full dose antibiotics. The onset of overwhelming post-splenectomy sepsis may be extremely rapid and the speed of response may determine the outcome. In the community setting, intravenous benzylpenicillin, after a blood culture [if possible], should be started at once, if the clinical circumstances warrant it, and the patient referred to the nearest acute hospital. If the patient is allergic to penicillin, any available non-penicillin antibiotic can be used.

11. For patients referred in to Hospital with overwhelming sepsis, commence a 3rd generation cephalosporin [cefotaxime or ceftriaxone] in an appropriate dose for age and size. If the patient is shocked, consult ITU staff and discuss transfer to HDU.

12. Patients travelling to malarial areas require specialist advice on prophylaxis, as malaria in splenectomised patients can lead to severe malaria with very high peripheral blood parasite counts. Contact Adult Infectious Disease teams for further advice [see below].

13. Human, dog or other animal bites in asplenic/hyposplenic may be fatal if untreated due to infection with *Capnocytophaga canimorsus* and other virulent organisms. Augmentin [Co-Amoxiclav] 625 mg [500/125] t.d.s. orally should be commenced immediately. Patients should be referred urgently to Adult Infectious Disease Teams [see below].

14. Babesiosis is a tick borne infection with sporadic cases worldwide and endemic areas predominately in United States (Massachusetts Islands, New York Islands, and Connecticut) but cases occur in Scotland. Peak transmission occurs between May to September with an incubation period of 5 to 33 days. This is associated with significant morbidity and mortality in asplenic patients. Patients suspected to have or be at risk of having Babesiosis should be referred urgently to Adult Infectious Disease Teams [see below].

Follow up

15. Annual follow-up and adequate immunisation should be undertaken in primary care to encourage compliance with prophylaxis and to check antibody and immunisation status. Check that the patient has a warning card identifying their condition, or a Medic-Alert bracelet

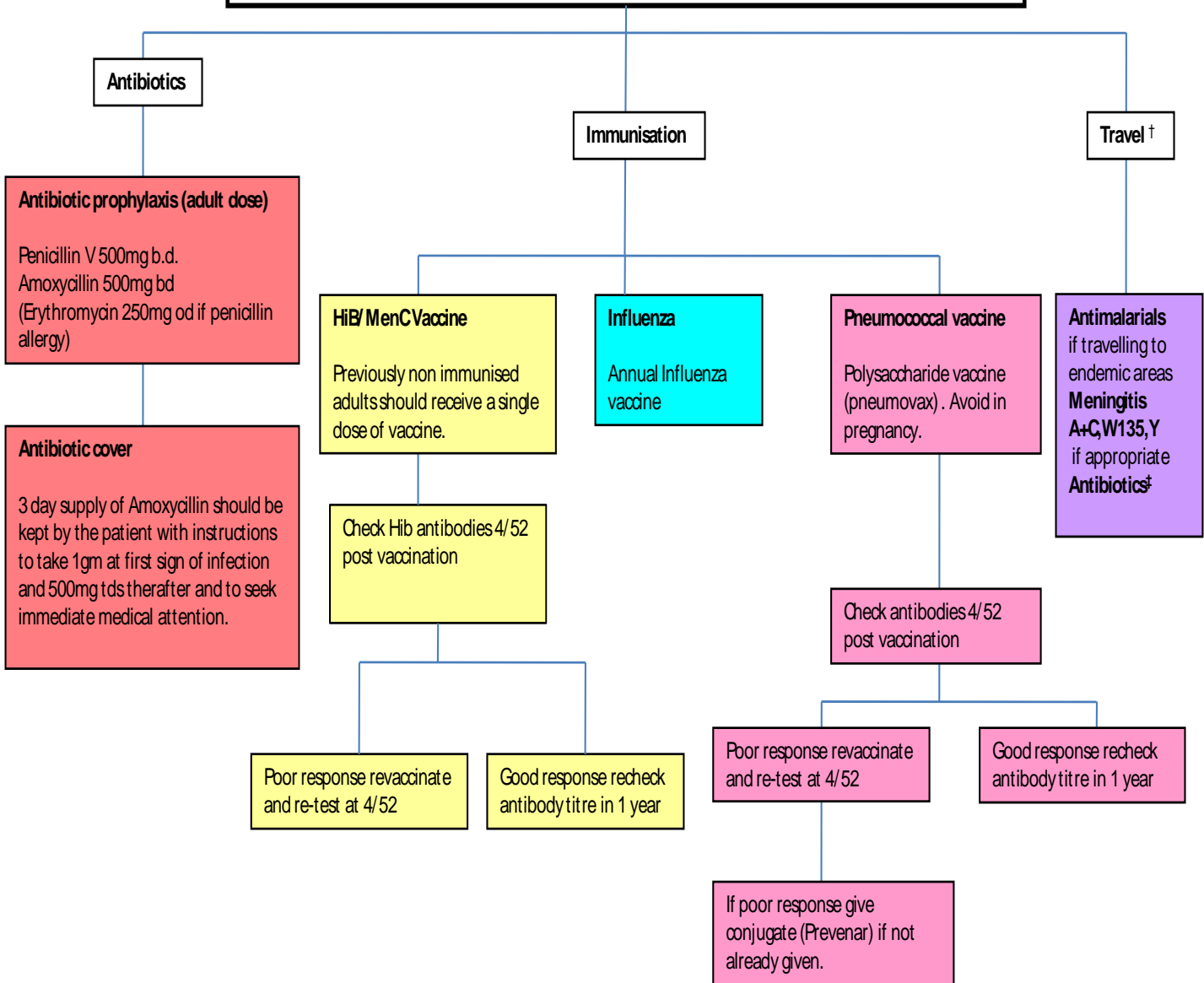
16. Any deaths due to sepsis of asplenic/hyposplenic patients should be clearly recorded on the death certificate.

Patient Education

17. Patients and family education is highly recommended. Patients and their families must be clearly informed that:

- The patient is at risk of infections, and that these infections could be rapidly progressive and life threatening
- The risk of infection is lifelong and you will require lifelong antibiotics
- The patient should be immunised against Haemophilus infections and against meningitis. They should also be vaccinated against pneumococcal infection and will require boosters to maintain this
- It is necessary to inform doctors and dentists attending the patient about the splenectomised or hyposplenic status of the patient
- That there is the possibility to wear a medical alert bracelet
- That patients should avoid travel or take specific prophylactic precautions in areas where malaria or babesiosis are endemic, because of the risk of life threatening infection

Absent or dysfunctional spleen in adults



†Discuss with Adult Infectious Disease team

‡Antibiotic prophylaxis may need altering depending upon local resistance.

Further advice is available from:

Adult Infectious Diseases:

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Development:

Data for these guidelines was identified using searches of Medline, EMBASE, authors personal files and relevant articles. Search terms used were asplenia, hyposplenia, splenectomy, OPSI, immunisations and antibiotic prophylaxis. These guidelines were authored by the Immunology Department at the RVI in consultation with Microbiology and Infectious disease clinicians.

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