There is evidence that prophylactic penicillin is effective in children with sickle cell disease, and it seems sensible to give similar prophylaxis to hyposplenic patients with other diseases. Identifying such patients is now relatively easy with the method of counting pitted red cells under differential interference contrast microscopy. The risks of fulminant sepsis in patients who may be hyposplenic must be borne in mind, and such patients should be treated promptly with antibiotics when they become febrile.

At present there is insufficient evidence to justify giving pneumococcal vaccine to all patients who may be hyposplenic. Nevertheless, it seems prudent to vaccinate certain high risk groups such as children with sickle cell disease and patients with severe extensive chronic inflammatory bowel disease.

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1 McMullin M, Johnston G. Long term management of patients after splenectomy. *BMJ* 1993;307:1372-3. (27 November.)
2 Kinnersley P, Wilkinson CE, Srinivasan J. Pneumococcal vaccination after splenectomy: survey of hospital and primary care records. *BMJ* 1993;307:1398-9. (27 November.)
3 Deodhar HA, Marshall RJ, Barnes JN. Increased risk of sepsis after splenectomy. *BMJ* 1993;307:1408-9. (27 November.)
4 Foster PN, Losowsky MS. Hyposplenism. In: Bowdler AJ, ed. *The spleen—stricture, function and clinical significance.* London: Chapman and Hall, 1990:232-59.
5 Muller AF, Toghill PJ. Splenic function in alcoholic liver disease. *Gut* 1992;33:1836-9.

Consider HIV infection in thrombocytopenia

EDITOR,—Mary McMullin and George Johnston reiterate the importance of prophylaxis against pneumococcal sepsis after splenectomy.[1] Although in H A Deodhar and colleagues' study most indications for splenectomy were "haematological," no reference was made to thrombocytopenia associated with HIV infection.[2] This is an important omission for two reasons.

Firstly, although thrombocytopenia is a recognised complication of HIV infection, our experience indicates that this is not always considered during diagnostic work up. Several patients referred to us for splenectomy who were thought to have idiopathic thrombocytopenia were subsequently found to be positive for HIV.

Secondly, people infected with HIV are 7-26 times more at risk of pneumococcal infection than people who are not infected.[3] Splenectomy would presumably further increase this likelihood of acquiring life threatening pneumococcal infection and for this reason should be considered only as a last resort when patients exhibit a bleeding diathesis with thrombocytopenia refractory to medical intervention (including treatment with zidovudine).[4]

Although the response to pneumococcal vaccine may be suboptimal in this group of patients, protective titres may still be attained.[5] A better response to vaccination would be expected in patients at an early stage of immunosuppression—the group most at risk of significant thrombocytopenia.

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1 McMullin M, Johnston G. Long term management of patients after splenectomy. *BMJ* 1993;307:1372-3. (27 November.)
2 Deodhar HA, Marshall RJ, Barnes JN. Increased risk of sepsis after splenectomy. *BMJ* 1993;307:1408-9. (27 November.)
3 Polsky B, Gold JWM, Whimbey E, Dryjanski J, Brown AE, Schiffman G, *et al.* Bacterial pneumonia in patients with the acquired immunodeficiency syndrome. *Ann Intern Med* 1986; 104:38-41.
4 Tyler DS, Shaunak S, Bartlett JA, Inglehart JD. HIV-1-associated thrombocytopenia: the role of splenectomy. *Ann Surg* 1990;211:211-7.
5 Huang KL, Ruben FL, Rinaldo CR, Kingsley L, Lyter DW, Ho M. Antibody responses after influenza and pneumococcal immunisation in HIV-infected homosexual men. *JAMA* 1987; 257:2047-50.

Datasheet at odds with government guidelines . . .

EDITOR,—A patient who had had a splenectomy was recently referred to us. It was not clear whether pneumococcal vaccine had been given at the time of the operation some years previously. We did not vaccinate the patient as the current datasheet for the vaccine states that revaccination is contraindicated because it results in an increased incidence in the frequency and severity of adverse reactions. We put the patient on prophylactic penicillin for life.

We believe that this issue requires clarification as Mary McMullin and George Johnston,[1] quoting government guidelines that recommend revaccination every five to 10 years,[2] do not seem to have addressed this problem.

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1 McMullin M, Johnston G. Long term management of patients after splenectomy. *BMJ* 1993;307:1372-3. (27 November.)
2 Department of Health. *Immunisation against infectious disease.* London: HMSO, 1992.

. . . has been amended

EDITOR,—Pneumococcal vaccine has recently been relicensed, and the datasheet includes a new section on revaccination. This states that, based on results of clinical studies, revaccination with the relicensed vaccine (PNEUMOVAX II) is recommended for adults at the highest risk of fatal pneumococcal infection who were initially vaccinated with the original pneumococcal vaccine (Pneumovax) four or more years previously without a serious or severe reaction. In addition, it is now recommended that revaccination should be considered for adults at the highest risk who received the 23 valent vaccine six or more years previously.

In children it is recommended that revaccination after three to five years should be considered for those at the highest risk of pneumococcal infection (for example, those with asplenia, sickle cell disease, or the nephrotic syndrome) who would be at most 10 years old at revaccination. Such children should not, however, be revaccinated within three years.

These changes to the datasheet bring the company's recommendations into agreement with those of the Department of Health and will appear in the *Data Sheet Compendium* for 1994-5.

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Consider prophylaxis in systemic lupus erythematosus

EDITOR,—Mary McMullin and George Johnston advocate lifelong prophylaxis with penicillin for patients after splenectomy.[1] We believe that a similar approach should be considered for patients with impaired splenic function because of systemic lupus erythematosus, particularly in association with hypocomplementaemia.

After surgical splenectomy, patients are at risk of developing overwhelming bacteraemia because of their failure to clear certain organisms from the circulation—notably *Streptococcus pneumoniae, Haemophilus influenzae, Neisseria meningitidis,* and *Escherichia coli.* Both antibody and complement deactivate these organisms. The specialised splenic microvasculature is uniquely suited to deactivating particulate pathogens, and opsonisation of organisms by antibody and C3 to form immune complexes facilitates their delivery to splenic periarterial macrophages, which bear both immunoglobulin Fc receptors and specialised complement receptors.

Patients with genetic or acquired deficiencies of classical pathway complement components have a severely impaired capacity to localise and retain immune complexes in the spleen.[2] By far the commonest clinical situation in which chronic hypocomplementaemia occurs is in patients with systemic lupus erythematosus, who may have low C3 and C4 concentrations even when their disease is inactive. Splenic deactivation of pathogens may be impaired in these patients not only because of hypocomplementaemia but because of impaired function of Fc receptors, reduced blood flow to the organ, and reduced concentrations of complement receptor type 1.

In two recent large studies of mortality in systemic lupus erythematosus, sepsis was implicated as a major cause of death.[3,4] More specifically, there are many reports of fatal overwhelming infections with both *S pneumoniae* and *N meningitidis* in patients with the disease.[5] While steroids and immunosuppressive treatment may be contributory factors in these cases, we postulate that severe functional hyposplenism is also important. We therefore recommend that prophylaxis with penicillin and pneumococcal vaccine should be considered in patients with systemic lupus erythematosus and chronic hypocomplementaemia, in a manner analogous to that recommended after surgical splenectomy.

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1 McMullin M, Johnston G. Long term management of patients after splenectomy. *BMJ* 1993;307:1372-3. (27 November.)
2 Davies KA, Erlendsson K, Beynon HLC, Peters AM, Steinsson K, Valdimarsson H, *et al.* Splenic uptake of immune complexes in man is complement-dependent. *J Immunol* 1993;151: 3866-73.
3 Cohen MG, Li EK. Mortality in systemic lupus erythematosus: active disease is the most important factor. *Aust N Z J Med* 1992;22:5-8.
4 Breban M, Meyer O, Bourgeois P, Palazzo E, Kahn MF. The actual survival rate in systemic lupus erythematosus: study of a 1976 cohort. *Clin Rheumatol* 1991;10:283-8.
5 Mitchell SR, Nguyen PQ, Katz P. Increased risk of neisserial infections in systemic lupus erythematosus. *Semin Arthritis Rheum* 1990;20:174-84.

Caesarean section rates

Evaluate the reasons for surgery

EDITOR,—Pieter E Treffers and Maria Pel's editorial on the rising trend for caesarean birth seems to be simply another opinion on the problem, with little substantial evidence. The fact that a particular type of care is associated with a certain outcome does not prove a causal relation.

We work in a large teaching centre, where the rate of caesarean section has changed little over the past 20 years (figure), although it has been consistently higher than the national average. Recently, the rate of instrumental vaginal delivery has fallen.