

The management of splenic trauma in patients with splenomegaly due to malaria

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In the tropics, as in the developed world, the spleen is the commonest intraabdominal organ to be injured (1,2). Splenic enlargement due to chronic malaria infection predisposes to splenic injury, particularly in low-velocity blunt trauma due to domestic violence or assault, which is common in Papua New Guinea (PNG). In developed countries the risk of post-splenectomy sepsis has resulted in a more conservative approach to splenic trauma being adopted where *Streptococcus pneumoniae* and *Haemophilus influenzae* type b have been the most common organisms responsible (3,4). In the tropics there have been occasional case reports of death from malaria after splenectomy (2,5-7) but only one study comparing splenectomy patients with those whose spleens were conserved (8). Table 1 shows the risks of infection after splenic

trauma depending on whether the spleen was conserved or not. In Papua New Guinea splenic conservation has been practised for over a decade with a reduction of the splenectomy rate in cases of splenic trauma to below 30% (2,6).

The high prevalence of ruptured spleen in abdominal trauma in malarious regions makes interpretation of information obtained from peritoneal lavage difficult. The problem is that if there is a haemoperitoneum and the patient is reasonably stable one may not want to operate, particularly if there were only a single injury, which is often the case in the tropics. However, the rule of thumb should be: if in doubt, operate. Do not delay if the patient is unstable, and if there is no blood available get the spleen out while the patient has a blood pressure. It is

TABLE 1

ILLNESSES AND RESULTS OF BLOOD EXAMINATION IN PATIENTS WITH SPLENIC TRAUMA AND HOSPITAL CONTROLS 1-10 YEARS AFTER INJURY*

	Splenectomy (%) (n=17)	Splenic conservation (%) (n=33)	Hospital control (%) (n=50)	Significance p value (χ ²)
History of malaria	17 (100)	18 (55)	23 (46)	p<0.001 (15.43)
History of URTI	15 (88)	12 (36)	18 (36)	p<0.001 (15.47)
Visit to clinic	15 (88)	2 (6)	10 (20)	p<0.001 (40.93)
Hb < 13 g/dl	14 (82)	17 (52)	34 (68)	p>0.05 (5.09)
WBC > 10 x10 ⁹ /l	13 (76)	10 (30)	18 (36)	p<0.01 (10.92)
Malaria parasites on blood film	15 (88)	6 (18)	8 (16)	p<0.001 (34.95)

*Data obtained from K.E. Boone, MMed Thesis, University of Papua New Guinea, 1993

URTI = upper respiratory tract infection

Hb = haemoglobin level

WBC = white blood cell count

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difficult to conserve an enlarged spleen and despite the risks of subsequent malaria infection one needs to be confident that a repaired spleen is securely repaired.

Even in Papua New Guinea where there is considerable experience of nonoperative management over 20 years some patients have died because of over-adherence to a nonoperative approach. Surgeons must always be ready to operate to arrest haemorrhage as part of the resuscitative process even if they may then conserve the spleen.

I recommend that when splenectomy is performed, every effort is made to ensure that the patient living in an endemic area continues to take antimalarial prophylaxis for life. Those living in the tropics, but outside malarious areas (such as in the highlands), require prophylaxis whenever they travel into an endemic zone. In addition, pneumococcal and *Haemophilus influenzae* type b vaccination should be given. Penicillin prophylaxis is also advisable. The duration of penicillin prophylaxis (250-500 mg penicillin V per day) is controversial. Recommendations vary from 1 to 5 years or even lifelong prophylaxis. In PNG

I believe we should recommend 5 years, although compliance with such a regimen is likely to be poor.

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