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- Dajanli AS, Ayoub E, Bierman FZ, Bisno AL, Denny FW, Durack DT, et al. Guidelines for the diagnosis of rheumatic fever: Jones criteria, updated 1992. *JAMA* 1992;268:2069-73.
- Da Silva NA, Pereira BA. Acute rheumatic fever: still a challenge. *Rheum Dis Clin North Am* 1997;23: 545-68.
- Veasy LG, Tani L, Hill H. Persistence of acute rheumatic fever in the intermountain area of the United States. *J Pediatrics* 1994;124:9-16.
- Zangwill KM, Wald ER, Landino A. Acute rheumatic fever in western Pennsylvania: a persistent problem into the 1990s. *J Pediatrics* 1991;118:561-3.
- Mason T, Fisher M, Kajula G. Acute rheumatic fever in west Virginia. Not just a disease of children. *Arch Intern Med* 1991;151:133-6.
- Wilson NJ, Neutze JM. Echocardiographic diagnosis of subclinical carditis in acute rheumatic fever. *Int J Cardiol* 1995;50:1-6.
- Fogler G, Hajar R, Robida A, Hagar HA. Occurrence of valvular heart disease in acute rheumatic fever without evident carditis: colour flow Doppler identification. *Br Heart J* 1992;6:434-8.
- McLaren MJ, Markowitz MM. Rheumatic heart disease in developing countries: the consequence of inadequate prevention. *Ann Intern Med* 1994;120:243-5.
- Kuttner AG, Mayer FE. Carditis during second attacks of rheumatic fever—its incidence in patients without clinical evidence of cardiac involvement in their initial episode. *N Engl J Med* 1963;268:1259-61.
- Jansen TLThA, Janssen M, Van Reil PLCM. Acute rheumatic fever or post-streptococcal reactive arthritis: a clinical problem revisited. *Br J Rheumatol* 1998;37:335-40.
- Stollerman GH, Lewis AJ, Schultz I, Taranta A. The relationship of the immune response to group A streptococci to the course of acute, chronic and recurrent rheumatic fever. *Am J Med* 1956;20:163-9.
- Ayoub EM, Wannamaker LW. Evaluation of the streptococcal desoxyribonuclease B and diphosphopyridine nucleotidase antibody tests in acute rheumatic fever and acute glomerulonephritis. *Pediatrics* 1962;29:527-38.
- Crea M, Mortimer AM. The nature of scarlatinal arthritis. *Pediatrics* 1959;23:879-84.
- Moon R, Greene M, Rehe GT, Katona IM. Poststreptococcal reactive arthritis in children: a potential predecessor of rheumatic heart disease. *J Rheumatol* 1995;22:529-32.
- Schaffer FM, Agarwal R, Helm J, Gingell R, Roland JMA, O'Neil K. Post-streptococcal reactive arthritis and silent carditis: a case report and review of the literature. *Pediatrics* 1994;93:837-9.
- Haffjee I. Rheumatic fever and rheumatic heart disease: the current status of its immunology, diagnostic criteria, and prophylaxis. *Q J Med* 1992;84:641-58.
- Little PS, Williamson I. Are antibiotics appropriate for sore throats? *BMJ* 1994;309:1010-1.
- Dajani A, Taubert K, Ferrieri P, Peter G, Shulman S, Members OC, et al. Treatment of acute streptococcal pharyngitis and prevention of rheumatic fever: a statement for health professional. *Pediatrics* 1995;96:758-64.
- Albert DA, Harel L, Karrison T. The treatment of rheumatic carditis: a review and meta-analysis. *Medicine* 1995;74:1-12.
- Wyse T, Bloom SR, So A, Cleland J, Kerr DNS, Rees AJ, et al. Rheumatic fever: changes in its incidence and presentation. *BMJ* 1991;302: 518-20.
- De Cunto CL, Gianni EH, Fink CW, Brewer EJ, Person DA. Prognosis of children with poststreptococcal reactive arthritis. *Pediatr Infect Dis J* 1998;7:633-8.

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A memorable patient

For want of a bag of blood

I had been working in sub-Saharan Africa for a month, and it was the height of the malaria season. When I first arrived I asked what the transfusion threshold was, and was told, "A haemoglobin of 5 if they are sick; otherwise 3.5." An otherwise perfectly normal little girl was admitted with a haemoglobin of 2.6 and malaria. Like any toddler, she was able to sit, look around, and resist examination. I tried to give her oxygen but, like most toddlers, she would not keep the mask on. However, she had the respiratory distress and metabolic acidosis of severe malaria, and needed blood urgently.

Most children with this life threatening syndrome did well with simple treatments: antimalarials, fluid, and blood. It was the blood that enabled the patient to meet the high oxygen demand from fever and respiratory distress in the face of severe parasite induced anaemia. Many had anaemia even before they had malaria, from a combination of iron deficiency and worms. Despite all the difficulties in running a hospital in a developing country, the blood bank normally did a remarkably good job. Blood was obtained from the relatives of patients, who were not discharged until the blood they used was replaced. Volunteer donors were uncommon. Blood was available, screened, and cross matched at all hours of the day.

The little girl waited over four hours for the blood to arrive. It never did, due to an unusual shortage at the blood bank. She had a fit, arrested, and it was not possible to resuscitate her. Her mother was understandably distraught. I kept thinking how avoidable the whole thing was, for want of a bag of blood.

The girl's death had two consequences for me. Firstly, I gave blood for the first time in my life, overcoming a life long needle phobia. I almost fainted in the hot,

humid, dingy room, despite using local anaesthetic cream and being given a drink by the bemused technician. All the local donors just lined up, gave blood, and walked away. Secondly, I learnt the value of blood in severe anaemia. I had never seen anyone die of anaemia without blood loss before, and I realised what a medical emergency it can be.

Not long afterwards a little boy with malaria, anaemia, and respiratory distress arrived grunting and rapidly became unconscious, only to be jeopardised by the absence of a blood bank technician. After one nerve racking hour we were forced to ask our own laboratory technician to group the blood (AB+), and raided the blood bank with the key for a suitable bag—it turned out to be 0+. The emergency transfusion saved his life.

Before going to Africa I was mindful of the risks of blood transfusion where HIV is prevalent. We estimated a prevalence of 4% in the local children. In the West we try to use blood sparingly, but we seldom see patients with such profound anaemia. That child, and many others, taught me that, despite its risks, blood can be a life saving treatment in severe anaemia.

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We welcome articles of up to 600 words on topics such as *A memorable patient*, *A paper that changed my practice*, *My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.