Localized polyarteritis nodosa of the gallbladder

Sirs,

Polyarteritis nodosa (PAN) is characterized by focal segmental necrotizing vasculitis of medium and small-sized arteries. Microscopically there is fibrinoid necrosis and a mixed-cell inflammatory infiltrate with the sectorial involvement of the arterial wall leading to microaneurysm formation (1). It may present in diffuse or classical form, or as disease localized to a single organ such as the gallbladder, appendix or pancreas. Reports of isolated gallbladder PAN occur mainly in the surgical and gastroenterology literature (1-9). Gallbladder involvement is found in 10 - 40% of patients with generalized PAN at autopsy, although most patients did not manifest signs and symptoms of acute cholecystitis. However, isolated, symptomatic, non-progressive PAN of the gallbladder is rare (6). We report such a case of isolated gallbladder PAN and discuss the management dilemma presented by the possibility of disease progression after surgery, emphasizing its relevance to rheumatologists.

A 66-year-old woman was admitted in 1992, with abrupt onset of unremitting epigastric pain radiating to the mid back associated with nausea and vomiting. She had had recurrent epigastric pain for over 10 years with a presumed diagnosis of peptic ulcer disease, for which she was given ranitidine without relief. She took Atenolol and hydrochlorothiazide, 50 mg each once a day, for hypertension. Physical examination demonstrated epigastric tenderness without guarding. The abdomen was soft with no palpable masses. Bowel sounds were hypoactive. Her hemoglobin was 13.7 g/dL, white blood count was 9,300 per mm3 with 78.7% neutrophils, 17.8% lymphocytes, 2.4% monocytes, 0.6% basophils, and 0.5% eosinophils. Blood urea nitrogen and serum creatinine were within normal limits. Serum amylase was 211 U/L (normal range, 44 - 128 U/L), total bilirubin was 1.9 mg/dL (normal range, 0.2 - 1.0 mg/dL), serum alkaline phosphatase was within normal range, and serum aspartate transaminase was 64 IU/L (normal range, 10 - 42 IU/L).

Serum hepatitis B surface antibody and B surface antigen were negative. The results of urine analysis were normal. HIDA scan showed no visualization of the gallbladder. Acute cholecystitis was diagnosed and cholecystectomy was performed. Intraoperative cholangiogram revealed no stones. The gallbladder had no calculi. Microscopically it showed necrotizing vasculitis in both acute and healed stages, consistent with polyarteritis nodosa. The medium sized arteries in the wall of the gallbladder showed focal and segmental fibrinoid necrosis, and partial destruction of the elastic lamina (Fig. 1). Some vessels showed thrombosis and there was acute cholecystitis with severe epithelial atypia. The patient made an uncomplicated surgical recovery and shows no further signs or symptoms of PAN nine years after cholecystectomy.

The male to female ratio of isolated PAN of the gallbladder is 2.3:1, the age range is 33 to 86 years, the mean age of onset 54 years and the mode 61 years. Gallstones occur in 47% of cases, suggesting that in isolated PAN, as in diffuse disease, acalculous cholecystitis is frequent. Prognosis is worse in males, with secondary generalization in 29% (17% for females). Progression to generalized PAN occurs at a younger age (mean of 42 years).

Finding isolated gallbladder PAN on biopsy may present a diagnostic and therapeutic dilemma to pathologists and clinicians. A review of 40 cases of gallbladder vasculitides classified the disease depending on the presence of systemic PAN (group I), other connective tissue disease (group II), or an isolated gallbladder vasculitis (group III) (6). This system can be adapted to gallbladder PAN specifically. Patients in groups I and II clearly benefit from treatment of the underlying vasculitis syndrome. The treatment and follow-up of patients in group III presents more of a challenge. Analysis of published reports suggests that these patients should be followed closely after cholecystectomy, which is seldom followed by progression to systemic disease (6). Indeed, post-surgical progression to generalized PAN is unlikely after the first few months of disease-free follow up and occurred in only 25% of cases, always within 2 months after surgery. Thus, the use of steroids and immunosuppressive agents without further evidence of systemic involvement after surgery may be unwarranted; especially given the toxicity of current immunosuppressive therapy, the costs and risks to patients of further invasive testing, and the essentially benign course of the disease in most cases. A more aggressive approach involving the use of immunosuppressive therapy is reserved for cases presenting with evidence of generalized disease. The absence of serum autoantibodies is associated with a low short-term risk for progression to systemic vasculitis. The presence of autoantibodies, such as ANCA, anti-dsDNA, rheumatoid factor and anti-ScI 70, is useful in determining the specific diagnosis and suggesting the possibility of more generalized vasculitis. Although serological tests may be negative in PAN, the likelihood of a coexisting vasculitis justifies a complete serological work up, as illustrated by a case of seropositive rheumatoid arthritis with gallbladder involvement indistinguishable from PAN (10). Furthermore, patients with symptoms and signs suggestive of generalized PAN may need to have biopsies of other organs at surgery. Parangi et al. described the complication of aneurysmal rupture in PAN of the liver in patients with constitutional symptoms and advocate an aggressive search for generalized PAN by angiography or tissue biopsy (1). In summary, we believe that an understanding of the natural history of isolated gallbladder PAN would help to contain costs and decrease invasive testing in cases where a favorable prognosis is suggested.

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Fig. 1. Section of the gallbladder from the patient showing necrotizing vasculitis, with fibrinoid necrosis and destruction of the elastic lamina involving half the circumference of a medium sized artery.
Letters to the Editor

The Child Health Questionnaire (CHQ-PF50) studies: Sincere congratulations and a sincere plea for terminological accuracy

Sirs,

I would like to comment on the enormous effort, planning and co-ordination that was obviously entailed in the recent validation of the Child Health Assessment Questionnaire (CHAQ) and the Child Health Questionnaire (CHQ-PF50) in all 32 member countries of the Paediatric Rheumatology International Trials Organization (PRINTO) (1). The logistics involved in an overall study that involved assessing 3,235 children with JIA, alongside 3,409 healthy children with JIA, alongside 3,235 children with juvenile idiopathic arthritis (JIA) patients compared to healthy children” (1) which presents the preliminary psychometric findings regarding the cross-cultural adaptation and psychometric evaluation of the Childhood Health Assessment Questionnaire (CHAQ) and the Child Health Questionnaire (CHQ) by the children, as described in the CHQ to the introductory review it is explained in the preface (2), the supplement starts with an introductory review article (3) summarising the overall methodology used and the samples collected. This was followed by one article for each of the 32 countries participating in the project. To avoid excessive redundancy, the editors of the supplement attempted to keep each of the papers as simple and short as possible. For this reason the details concerning the CHAQ and the CHQ (version used, person completing the questionnaires, etc.) were explained in the introductory review, while each of the individual pages simply refers the reader to the introductory paper for further details. In the introductory review it is explained that the PRINTO researchers selected the CHQ because it represents a generic instrument that can be used not only for JIA but also for other paediatric rheumatic diseases such as juvenile dermatomyositis, juvenile systemic lupus erythematosus, linear scleroderma, and systemic sclerosis. The parent-administered version of the CHQ with 50 items (CHQ-PF50) was chosen from among the available versions (28-, 50- and 98-item parent or child forms) as the starting point to make the overall management of the project as simple and linear as possible. This CHQ-PF50 was used by the participant countries to develop shorter versions or forms that can be completed directly by the children, as described in the CHQ manual (4).

While the introductory paper reports extensively on methodological issues, each indi

References


Reply
Sirs,

We thank Dr Houghton for his comment on our supplement entitled “Quality of life in juvenile idiopathic arthritis (JIA) patients compared to healthy children” (1) which presents the preliminary psychometric findings regarding the cross-cultural adaptation and psychometric evaluation of the Childhood Health Assessment Questionnaire (CHAQ) and the Child Health Questionnaire (CHQ) by the children, as described in the CHQ to the introductory review it is explained in the preface (2), the supplement starts with an introductory review article (3) summarising the overall methodology used and the samples collected. This was followed by one article for each of the 32 countries participating in the project. To avoid excessive redundancy, the editors of the supplement attempted to keep each of the papers as simple and short as possible. For this reason the details concerning the CHAQ and the CHQ (version used, person completing the questionnaires, etc.) were explained in the introductory review, while each of the individual pages simply refers the reader to the introductory paper for further details. In the introductory review it is explained that the PRINTO researchers selected the CHQ because it represents a generic instrument that can be used not only for JIA but also for other paediatric rheumatic diseases such as juvenile dermatomyositis, juvenile systemic lupus erythematosus, linear scleroderma, and systemic sclerosis. The parent-administered version of the CHQ with 50 items (CHQ-PF50) was chosen from among the available versions (28-, 50- and 98-item parent or child forms) as the starting point to make the overall management of the project as simple and linear as possible. This CHQ-PF50 was used by the participant countries to develop shorter versions or forms that can be completed directly by the children, as described in the CHQ manual (4).