

# Correspondence

## More on Mountain Biking

TO THE EDITOR: The recent article by Chow, Bracker, and Patrick<sup>1</sup> makes a timely contribution to the medical literature on bicycling. In the past decade the specific health hazards that accompany mountain bicycling (also known as ATB—all-terrain bicycle) were either not reported or were hidden in generic "bicycle" articles.<sup>2</sup> My own experience and a review of sports medicine publications suggest that pelvic fractures in particular occur at a notable rate.

In 1993 I fractured my pelvis and acetabulum in a fall from my mountain bicycle. During my recovery I was introduced to two other mountain bicycle enthusiasts who had themselves incurred similar injuries just months before. Casual investigation among their acquaintances and my interview of physician colleagues have brought to my attention no fewer than six other recent serious pelvic fractures sustained during mountain bicycling in the southern California area alone. Bob Howells, mountain bicycle expert, journalist, and pelvic fracture victim, succinctly described our plight in his observation, "We have no helmets for our hips" (Bob Howells, personal communication, May 1993).

Apparently when a young mountain bicyclist falls directly on the greater trochanter, even at moderate speeds, the dense femoral head is likely to punch through the acetabulum, creating a fracture more often associated with head-on automobile collisions or falls from great heights. Physicians facing this injury need to be familiar with the literature that establishes aggressive surgical repair by experienced hands as the appropriate, and possibly critical, approach required to achieve the best result.<sup>3,4</sup>

BRUCE BARNETT, MD  
18100 Lake Encino Dr  
Encino, CA 91316

### REFERENCES

1. Chow TK, Bracker MD, Patrick K: Acute injuries from mountain biking. *West J Med* 1993; 159:145-148
2. Thompson DC, Thompson RS, Rivara F: Incidence of bicycle-related injuries in a defined population. *Am J Public Health* 1990; 80:1388-1390
3. Kebaish AS, Roy A, Rennie W: Displaced acetabular fractures: Long-term follow-up. *J Trauma* 1991; 31:1539-1542
4. Matta JM, Anderson LM, Epstein HC, Hendricks P: Fractures of acetabulum: A retrospective analysis. *Clin Orthop* 1986; 205:230-240

\* \* \*

## Dr Chow Responds

TO THE EDITOR: I agree with Dr Barnett that the specific hazards of off-road bicycling have probably been "hidden in generic bicycle articles." In addition, I think information regarding all-terrain bicycles (ATBs) is hidden in medical diagnoses that identify the cause of these hazards as generic bicycle accidents. Many of us who are mountain bike enthusiasts have our own impression of risks in this sport, which are based on personal experiences and anecdotal cases. Barnett's unfortunate mishap has put him into contact with others with similar injuries from the

sport and, thus, a bias has resulted. The incidence of serious pelvic fractures from mountain biking is unknown.

My experiences have been different, and I also have my own bias. In our investigation,<sup>1</sup> most accidents occurred while going downhill. This exposes the rider to a vulnerable posture, with a tendency for the rider to become "launched" over the handlebars. The head often strikes the ground, and although most ATB riders wear helmets, conventional bicycle helmets may be inadequate in a sport that has progressed to a level beyond what was anticipated when equipment was designed. Many riders strike their unprotected face, and massive facial trauma occurs. The cervical spine is unprotected, and the potential for serious injury exists. As in pelvic fractures, the specific details of head and neck trauma are not certain.

The next logical step in our efforts to learn more about injury patterns in off-road cycling is a prospective analysis of accidents in which the rider seeks medical attention. This sounds simple, but the difficulty lies in finding a suitable medical facility where the incidence of these mishaps will allow a population of substantial size to be studied. An investigation of this type would greatly enhance our knowledge and help our goal of making this sport as safe as possible.

TONY K. CHOW, MD  
Loma Linda University  
Medical Center  
11234 Anderson St  
Loma Linda, CA 92354

### REFERENCE

1. Chow TK, Bracker MD, Patrick K: Acute injuries from mountain biking. *West J Med* 1993; 159:145-148

## Human Immunodeficiency Virus and Primary Pulmonary Hypertension

TO THE EDITOR: Primary pulmonary hypertension is a disease of unknown cause.<sup>1</sup> A close association with human immunodeficiency virus (HIV) disease has been reported only recently.<sup>2</sup> The purpose of this report is to document another case of progressive primary pulmonary hypertension in a young woman seropositive for HIV infection.

### Report of a Case

The patient, a 38-year-old woman, was seen because for four months she had had progressive dyspnea on exertion, pedal edema, and abdominal distension. Her medical history was remarkable for adequately controlled hypertension, and she recently tested positive for HIV antibody. The patient admitted to having abused drugs 20 years ago.

On physical examination she had mild tachycardia, tachypnea, jugular venous distension, hepatojugular reflux, bilateral pitting edema, left parasternal heave, an accentuated second heart sound with P<sub>2</sub> being louder than A<sub>2</sub>, a murmur of tricuspid regurgitation, tender hepat-

omegaly, and moderate ascites. There was no clinical evidence of connective tissue disease, vasculitis, or hemoglobinopathy. Radiographic examination of the chest revealed borderline cardiomegaly. An electrocardiogram showed a normal sinus rhythm and right ventricular hypertrophy. At echocardiography she had right ventricular dilatation and hypertrophy with tricuspid regurgitation and mild global hypokinesia, with a left ventricular ejection fraction of 47%.

A lung scan failed to reveal any ventilation-perfusion abnormalities. Cardiac catheterization showed systolic and end-diastolic right ventricular pressures of 72 and 21 mm of mercury, respectively. The mean pulmonary capillary wedge pressure was 6.7 mm of mercury. The calculated pulmonary vascular resistance was 1,943 dynes per second per cm<sup>2</sup> (normal, 20 to 130). There was no oxygen step-up suggestive of intracardiac shunt. A diagnosis of primary pulmonary hypertension was established when the diagnostic workup following the guidelines established by the National Institutes of Health registry for primary pulmonary hypertension failed to identify a specific cause for the patient's pulmonary hypertension. The patient refused a lung biopsy. Eight months after the diagnosis the patient is alive although her respiratory distress is progressing slowly.

Primary pulmonary hypertension with necrotizing arteritis<sup>3,4</sup> and plexogenic arteropathy<sup>3,5</sup> have been reported recently in persons with HIV infection. Attempts to identify virus in the pulmonary vascular endothelium of these patients have not been successful.<sup>6</sup> It is speculated that the vascular lesions are either due to an unusual immune response to the HIV<sup>3,4</sup> or are mediated by some growth factor associated with it.<sup>6</sup> As a result, testing for HIV infection in all patients with primary pulmonary hypertension has been recommended.<sup>2,6</sup> Most cases reported so far (about 25) had presentations similar to this case, with a

few months' history of dyspnea and fatigue preceding the diagnosis and the rapid deterioration of symptoms thereafter. Numerous cardiopulmonary manifestations of the acquired immunodeficiency syndrome have been reported.<sup>7</sup> Apart from lung infections, dilated cardiomyopathy, pericardial effusion, and pleural effusion are the other common cardiopulmonary lesions in patients with HIV disease.

The few reports published of patients infected with HIV in whom findings consistent with primary pulmonary hypertension have developed suggest a link between a viral infection and pulmonary hypertension. It is advisable that this association be considered while evaluating unexplained dyspnea in HIV-positive patients, and HIV testing should be done in all patients with primary pulmonary hypertension.

ARUNABH, MD  
BEPPY EDASERY, MD  
*Department of Medicine  
Jamaica Hospital  
89th Ave and Van Wyck  
Expressway  
Jamaica, NY 11418*

#### REFERENCES

1. Rich S, Dantzker DR, Ayres SM, et al: Primary pulmonary hypertension—A national prospective study. *Ann Intern Med* 1987; 107:216-223
2. Legoux B, Piette AM, Bouchet PF, Landau JF, Gepner P, Chapman AM: Pulmonary hypertension and HIV infection. *Am J Med* 1990; 89:122
3. Jacques C, Richmond G, Tierney L, Curtis JL, McKerrow J, Warnock ML: Primary pulmonary hypertension and human immunodeficiency virus infection in a nonhemophiliac man. *Hum Pathol* 1992; 23:191-194
4. Polos PG, Wolfe D, Harley RA, Strange C, Sahn SA: Pulmonary hypertension and human immunodeficiency virus infection—Two reports and a review of literature. *Chest* 1992; 101:474-478
5. Speich R, Jenni R, Opravil M, Pfab M, Russi EW: Primary pulmonary hypertension in HIV infection. *Chest* 1991; 100:1268-1271
6. Mette SA, Palevsky HI, Pietra GG: Primary pulmonary hypertension in association with human immunodeficiency virus infection—A possible viral etiology for some forms of hypertensive pulmonary arteriopathy. *Am Rev Respir Dis* 1992; 145:1196-1200
7. Murray JF, Felton CP, Garay S, et al: Pulmonary complications of the acquired immunodeficiency syndrome: Report of a National Heart, Lung and Blood Institute workshop. *N Engl J Med* 1984; 310:1682-1688

The Editors are pleased to receive letters commenting on articles published in the journal in the past six months, as well as information or short case reports of interest to our readers. ALL MATERIAL SUBMITTED FOR CONSIDERATION MUST BE DOUBLE-SPACED. Letters NO LONGER THAN 500 WORDS are preferred. An original typescript and one copy should be submitted. All letters are published at the discretion of the Editors and subject to appropriate editing. Those of a scientific nature will be peer reviewed. Authors should include information regarding conflict of interest, when appropriate ("I warrant that I have no financial interest in the drugs, devices, or procedures described in this letter"). Most letters regarding a previously published article will be sent to the authors of the article for comment. Authors of accepted letters will have an opportunity to review the edited version before publication.