

hypertrophic pyloric stenosis, use of ultrasound

**Hypertrophic pyloric stenosis: Diagnosis using ultrasound**

Haller JO, Cohen HL  
*Radiology* 161:335-339  
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New radiology imaging techniques have changed the diagnostic workup of many clinical entities. This includes hypertrophic pyloric stenosis (HPS), a diagnosis to be considered in an infant who presents with vomiting, especially when there is a positive family history of HPS. Traditionally, barium upper GI series and plain abdominal radiographs have been used, but the authors state that ultrasonography may be preferable. They describe their technique and state that the diagnosis can be made if two of the following three conditions are met: pyloric diameter is equal to or greater than 15 mm, pyloric muscle thickness is equal to or greater than 4 mm, or pyloric length is greater than or equal to 1.8 cm. Because ultrasonography is operator dependent, they warn that this approach may not work at all institutions, but that it is a useful and effective diagnostic tool.

*Nicholas J Jouriles, MD*

arteriography, extremity injury

**Suspected vascular trauma of the extremities: The role of arteriography in proximity injuries**

Gomez GA, Kreis DJ, Ratner L, et al  
*J Trauma* 26:1005-1007  
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A retrospective review of 72 patients with penetrating extremity trauma that was evaluated by arteriography was performed in order to determine the utility of angiography for proximity injury without clinical findings of vascular injury, ie, active bleeding, pulse deficit, distal ischemia, bruit, trill, or a large pulsatile or expanding hematoma. There were ten female and 62 male patients in the study, with a mean age of 29.9 years. Gunshot wounds caused 91.7% of all injuries, and the most common sites of injury were the thigh (47.2%) and upper arm (20.8%). Arteriography was normal in 76.4%, vascular spasm was demonstrated in 15.3%, and bleeding from small muscular branches occurred in 4.2%. There were no cases of intimal tear, arteriovenous fistula, or pseudoaneurysm, and only one patient was explored (1.4%) for injury on exploration. It was concluded that routine angiography is unnecessary for penetrating extremity injury without clinical evidence of vascular injury and that 24-hour observation may be sufficient management in these injuries.

*Douglas M Davenport, MD*

hematoma, traumatic, intracerebral

**Traumatic intracerebral hematoma: Timing of appearance and indications for operative removal**

Soloniuk D, Pitts LH, Lovely M, et al  
*J Trauma* 26:787-793  
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Thirty-five cases of post-traumatic intracerebral hematoma were reviewed retrospectively in order to determine the time of appearance of the hematoma after injury. Intracerebral hematoma (ICH) appeared in zero to three hours after injury in 20%, three to six hours after injury in 6%, six to 24 hours in 29%, and after 24 hours in 49%. Fifty percent of the patients were comatose at the time of admission with a Glasgow coma scale of 8 or less. CT scans were positive at the initial scan in 14 patients. However, in 23 patients the ICH was present only on subsequent scans. Operative intervention was determined by neurologic deterioration, uncontrolled intracranial hypertension, or failure to improve despite aggressive management. Fifty percent of the patients died within a year of injury, 71% who were comatose at admission, and 62% who were older than 50. The authors stress that in only 25% of cases did the ICH present early and that most hematomas developed after the initial CT scan and evaluation.

*Douglas M Davenport, MD*

asthma, anticholinergic, bronchodilators

**Comparison of the anticholinergic bronchodilator ipratropium bromide with metaproterenol in chronic obstructive pulmonary disease**

Tashkin DP, Ashutosh K, Bleecker ER, et al  
*Am J Med* 81 (suppl 5A):81-90  
 Nov 1986

In this multicenter, randomized, double-blind, prospective study of 261 nonatopic patients with COPD, the efficacy and safety of an atropine congener, ipratropium bromide, was compared to that of the beta agonist metaproterenol. The mean subject age was 61.5 years, and all patients had a significant smoking history and FEV-1 < 75% predicted with >15% improvement after isuprel inhalation, while none had history or findings suggestive of allergic asthma. After a two-week beta agonist washout period, patients were continued on their previous doses of theophylline and corticosteroids in a partially controlled fashion, and were started on comparable metered-dose inhalations of either ipratropium or metaproterenol. PFTs were assessed on days 1, 45, and 90. Ipratropium was significantly more efficacious than metaproterenol on all three occasions as determined by comparative improvement in both FEV-1 and FVC ( $P <$

.01). The overall incidence of adverse effects did not vary significantly between the two groups, although tremor was more common in patients receiving metaproterenol, while reports of systemic cholinergic effects with either agent were negligible. [Editor's note: While beta agonists remain the first-line therapeutic choice in allergic asthma, interest continues to grow in the use of anticholinergic agents for the management of cigarette-related COPD.]

Ian Cowan, MD

wounds, penetrating; pericardial tamponade

### **Pericardial tamponade: A critical determinant for survival following penetrating cardiac wounds**

Moreno C, Moore EE, Majure JA, et al  
*J Trauma* 26:821-824  
Sep 1986

A retrospective review of 100 consecutive cases of penetrating cardiac injury was performed to evaluate the influence of tamponade on patient outcome. Sixty-nine patients required thoracotomy in the emergency department and 31 had initial chest exploration in the operating room. There were 57 stab wounds and 43 gunshot wounds. Wound location included right ventricle in 55, left ventricle in 49, right atrium in 16, and left atrium in seven. Thirty-one patients survived. Four required ED thoracotomy, 27 underwent thoracotomy in the OR, 27 had stab wounds, four had gunshot wounds, 22 had right heart wounds, and nine had left heart wounds. Tamponade was present in 33 patients, and 73% of these survived as compared to 11% of survivors without tamponade. It was concluded that cardiac tamponade is a critical independent factor influencing patient survival following penetrating cardiac injury.

Douglas M Davenport, MD

moxalactam, with gentamicin and clindamycin, in abdominal trauma

### **A prospective randomized study of moxalactam versus gentamicin and clindamycin in penetrating abdominal trauma**

Kreis DJ Jr, Augenstein D, Martinez O, et al  
*Surg Gynecol Obstet* 163:1-4  
Jul 1986

A prospective study comparing moxalactam with gentamicin plus clindamycin in 42 patients with penetrating abdominal trauma was performed. Patients received either 2 g moxalactam every 12 hours and a single 10-mg dose of vitamin K or 80 mg gentamicin every eight hours plus 600

mg clindamycin every six hours. If hollow viscus injury occurred, the antibiotics were continued for five days minimum and three days if no such injury occurred. Twenty patients received moxalactam and 22 received gentamicin plus clindamycin. Ten patients were stabbed; 32 were shot. The small intestine or colon was injured in eight patients. Injury severity scores between the two groups were not significantly different. Five infections occurred in four patients in the gentamicin plus clindamycin group versus none with moxalactam ( $P < .05$ ). Moxalactam produced no significant complications and was well tolerated. It was at least as, if not more, effective than prophylaxis against infection in penetrating abdominal trauma than was gentamicin plus clindamycin. When given with vitamin K, no significant coagulopathies occurred. In addition, moxalactam is more cost effective than this two-drug therapy.

Steve Sornsin, MD

congestive heart failure; myocardial infarction, management

### **Management of congestive heart failure in patients with acute myocardial infarction**

Genton R, Jaffe AS  
*JAMA* 256:2556-2560  
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A comprehensive review of the treatment modalities of CHF in the setting of acute MI is presented. Prompt therapy of CHF is thought to reduce the area of infarction and the resultant complications of acute MI. The Killip classification is useful in diagnosis and prognosis; however 25% of patients with a cardiac index less than 2.2 L/min/m<sup>2</sup> are unrecognizable clinically. Pulmonary artery catheterization is recommended in all Killip class III and IV patients and in lower classes who have not resolved symptoms of failure within four to six hours. Diuretics should be used cautiously as the decreased volume can result in hypotension in the setting of a stiff ventricle. Sodium nitroprusside (SN) and IV nitroglycerine (NTG) are the two main choices for vasodilation. With high pulmonary occlusion pressures both agents are useful, however IV TNG loses its arterial vasodilatory effects with occlusion pressures less than 12 to 14 mm Hg. IV TNG is preferred because of its anti-ischemic potential, while SN may be more effective in improving cardiac output with severe heart failure or hypertension. Inotropic agents enhanced contractility, increase output, and lead to reflex systemic vasodilation. Dobutamine is preferred over dopamine in pulmonary congestion as it reduces left ventricular filling pressure. Dobutamine also does not appear to increase infarct size or elicit arrhythmias. In cardiogenic shock the use of both agents creates less hypoxemia than either single agent. Treatment of right-sided failure consists of volume expansion and inotropiagents, with dobutamine being the agent of choice. Atrial contraction is necessary; therefore A-V block requires sequential