interest of the ACR classification, vasculitides of the PN group should be considered as a common trunk, a close family of disorders, with their various expressions related to the antigens involved and their pathogenic consequences.

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REFERENCES


Antithrombotic Therapy for Venous Thromboembolism

To the Editor:

I would like to call your readers’ attention to some errors in our article, which appeared in the supplement to the October 1992 issue of Chest. In lines 4 through 7 of the right-hand column on page 417S, the sentence should read “Urokinase is recommended to be given as a 4,400 IU/kg of body weight loading dose followed by 4,400 IU/kg hourly for 12 h.” In Table 4 on the same page (see Table 1 below), the correct dosing regimen for urokinase in pulmonary embolism should be shown as 4,400 IU/kg loading and 4,400 IU/kg/h maintenance for 12 h.

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Risk of Aspiration Pneumonia in the Elderly

To the Editor:

In the elderly, aspiration is a common and serious problem. The morbidity and mortality that result from aspiration pneumonia are being recognized as major geriatric health problems. Recently, a marked depression of the cough reflex, one of the respiratory defense mechanisms, was shown in patients with aspiration pneumonia.1 We therefore examined the swallowing reflex, the cough reflex, and the mucociliary transport system and determined the critical levels of depression in the defense systems that lead to aspiration pneumonia.

The ten control subjects (mean age, 77±3 [SE] years) were healthy volunteers and led active daily lives. The ten patients with dementia due to cerebral arterial sclerosis (mean age, 79±3 years) were hospitalized, but they did not suffer from aspiration pneumonia. The ten patients with aspiration pneumonia (mean age, 78±5 years) had all suffered at least one episode of observed aspiration with chest x-ray evidence of an inflammatory response in the dependent pulmonary segments. Computed tomographic scans and magnetic resonance images revealed various degrees of cerebral atrophy and lacunar infarction, but did not show any abnormalities in the bulbar region in both patient groups.

Cough response to citric acid was evaluated by determining the cough threshold as reported previously.2 The swallowing reflex was induced by a bolus injection of 1 ml of distilled water into the pharynx through a nasal catheter without the knowledge of the subject, as described by Nishino et al.4 The swallowing action was identified by visual observation of the characteristic laryngeal movement. The swallowing reflex was evaluated by the latency of response, which was timed from the injection to the onset of the swallowing action. Nasal clearance was examined by the saccharine particle method, which is reported to reflect tracheobronchial clearance.5 To eliminate any diurnal variation in responses, three sets of experiments were done at the same time in a random fashion on 3 days within 1 week.

The latent time of swallowing was 1.2±0.1 (SE) s in the controls, 5.2±0.6 s in the patients with dementia, and 12.5±0.3 s in the patients with aspiration pneumonia. The threshold concentration of citric acid was 2.6±0.4 (SE) mg/ml in the controls and 37.1±16.7 mg/ml in the patients with dementia; all of them coughed at some point. By contrast, seven of the ten patients with aspiration pneumonia did not cough, even at the highest concentration of citric acid (360 mg/ml). All of the patients with aspiration pneumonia had a latent time of swallowing longer than 11 s and a threshold concentration of citric acid higher than 180 mg/ml (Fig 1). However, nasal clearance time did not differ significantly among the three groups (p>0.3).

The present study shows the combined depression of the cough and swallowing reflexes in patients with dementia due to cerebral arterial sclerosis and in patients with aspiration pneumonia, the