of a subarachnoid haemorrage with a hematoma at the dorsal level D9–D12. The spine was normal. Clotting disorders were carefully excluded. The subsequent clinical course was uneventful and the patient underwent complete recovery within 2 days. A further MRI examination demonstrated the complete blood reabsorption and confirmed normal spine signal. No vascular malformations were detected apart from the presence of an angioma at the level D11 within an otherwise normal vertebra. Spinal angiography was not performed because of the patient's refusal.

Spontaneous spinal subarachnoid hemorrhage is unusual and rarely results in spinal subarachnoid hematoma because the cerebrospinal fluid tends to dilute the blood and prevent the formation of clots. Patients with this disease could present with serious signs of myelopathy, and urgent surgical decompression is then warranted to preserve neurologic functions.[7-9] When spinal cord symptoms are present, the correct diagnosis is easily made. However, often, the clinical picture is that of local pain in the spinal column, which eventually becomes stiff. The pain can be severe and worsened by movement. It could be felt at various level along the vertebral column depending on the site of bleeding.[7] Thus, the frequent absence of remarkable spinal cord involvement and nerve root signs could delay diagnosis or lead to misdiagnoses, in particular while arising at the thoracic level and presenting with suddent thoracic pain, mimicking vascular emergencies. Slight signs of meningeal irritation, nerve roots, and spinal cord compression must be carefully searched in patients with sudden backache without proven cardiovascular causes.

There is no doubt that triage of patients with chest pain is extremely difficult,[10] and medical literature everyday adds new suggestive presentations of infrequent diseases. Nevertheless, EPs should be familiar also with unfrequent conditions to assure appropriate therapy in a timely manner. Spontaneous spinal subarachnoid hemorrhage should be considered early in the differential diagnosis either of acute spinal cord compression or, in any case of sudden back pain of unknown etiology, even in the absence of remarkable neurologic deficit.

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References

1. Lee TH, Goldman L: Evaluation of the patient with acute chest pain. N Engl J Med 2000;342:1187-1195
2. Goldman L, Cook EF, Johnson PA, Brand DA, Rouan GW, Lee TH: Prediction of the need for intensive care in patients who come to emergency departments with acute chest pain. N Engl J Med 1996;334:1498-1504
3. Pope JH, Aufderheide TP, Ruthazer R, et al: Missed diagnoses of acute cardiac ischemia in the emergency department. N Engl J Med 2000;342:1163-1170
4. Nallamathu BK, Eagle KA: When zebras run with horses: the diagnostic dilemma of acute aortic dissection complicated by myocardial infarction. J Interv Cardiol 2002;15:297-299
5. Botoman VA: Noncardiac chest pain. J Clin Gastroenterol 2002;34:6-14
6. Combarros O, Vadillo A, Gutierrez-Perez R, Berciano J: Cervical spine cord infarction simulating myocardial infarction. Eur Neurol 2002;47:185-186
7. Toole JF, Robinson MK, Mercuri M: Primary subarachnoid hemorrage, in Vinken PJ, Bruyn GW, Klawans HL, Toole JF (eds): Handbook of Clinical Neurology. Vascular Diseases vol 55 Amsterdam, Elsevier Science Publishers, 1989, 1–33
8. Sunada I, Akano Y, Kidosaki Y, Shimokawa N, Yamamoto S: Spontaneous spinal subarachnoid hematoma—case report. Surg Neurol 1995;44:133-136
9. Komiyama M, Yasui T, Sumimoto T, Fu Y: Spontaneous spinal subarachnoid hematoma of unknown pathogenesis: case reports. Neurosurgery 1997;41:693-694
10. Reilly BM, Evans AT, Schaider JJ, Wang J: Triage of patients with chest pain in the emergency department: a comparative study of physicians decisions. Am J Med 2002;112:95-103

ASSESSING NEW-ONSET MENTAL STATUS CHANGES IN PATIENTS WITH DEMENTIA

To the Editor:—Psychiatrists will frequently be consulted in the ED to assess patients with documented histories of dementia who are exhibiting signs and symptoms of new-onset mental status changes.[1] Not uncommonly, spouses, caregivers, or nursing home attendants will accompany the patient and provide a history of observing behavioral or cognitive changes in the person, which have occurred either abruptly or over the course of several days. Although these clinical changes could well be secondary to an underlying psychiatric disorder, it is also critically important to rule out other common causes of behavioral and personality changes in those who, as a result of their underlying cognitive deficits, are unable to provide an accurate or complete history.[2] A number of clues can alert both the ED physician and psychiatrist to the likelihood that the new mental or behavioral changes are secondary to an underlying physical disorder or medication: an abnormal level of alertness, psychiatric symptoms that are more sudden or severe than what is normally observed, coexisting chronic medical illness, or recent changes in medications.[3] The assessment should begin with a thorough history taken from a reliable informant followed by a comprehensive mental status evaluation and physical examination. Clarification of the diagnosis can be aided by recalling the most common reasons for new-onset mental status changes in this highly vulnerable population. When in the ED, I remember this particular differential diagnosis as *The Seven Is.*

1. INFECTION

Urinary tract infections and pneumonias are notorious for causing new-onset mental status changes in the geriatric patient. An elderly individual with progressive dementia will always be at high risk for either or both of these infections whether they are living in the community or residing in a skilled nursing facility.[4,5] A thorough physical examination, appropriate lab studies, and possible chest x-ray will help to clarify the diagnosis.

2. INFARCTION

Myocardial infarctions, as well as cerebral vascular accidents, could well present initially as behavioral or cognitive changes in the person with dementia.[6] An electrocardiogram and cardiac enzymes could be indicated in a person with a known history of coronary artery disease or if a "silent" myocardial infarction is suspected. In situations when there is evidence of focal neurologic findings on physical examination or a clouded sensorium, a computed tomography scan of the brain could well help identify the primary cause behind the mental status changes in the patient.

3. INJURY

Individuals with dementia frequently wander, have gait disturbances, or suffer from orthostatic hypotension, which can lead to unwitnessed falls. Fractured hips, subdural hematomas, and painful soft tissue injuries are not uncommon occurrences in this population and can lead to significant mental and behavioral changes before obtaining an accurate diagnosis.[7] Clarification of the underlying cause will be derived from obtaining a careful history from a reliable caregiver followed by a focused physical examination and appropriate radiologic studies.

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4. IATROGENIC

New-onset psychiatric symptoms in geriatric patients can frequently be attributed to the addition, discontinuation, or interaction of medications.[8] Because individuals with dementia have compromised central nervous systems, they are particularly vulnerable to medication side effects and adverse interactions. The clinician in the ED should take a thorough inventory of all medications the patient is currently taking, those which could have been added (eg, anticholinergics, steroids), as well as those which have been recently discontinued (eg, benzodiazepines).

5. ILLNESS

Exacerbations of chronic medical illnesses such as diabetes, chronic obstructive pulmonary disease, and renal disease can manifest initially with cognitive or behavioral changes in those with comorbid dementia.[9] Careful attention to signs of a progressive or sudden worsening of these medical conditions could lead the ED clinician to a better understanding of the changes in the patient's mental status.

6. IMPACTION

Fecal impaction is a common, and oftentimes overlooked, condition in geriatric patients, which can profoundly affect the person's behavior and clarity of thinking.[10] This population is particularly susceptible to fecal impaction as a result of the contributing effects of immobility, dehydration, and medication side effects. In a demented patient, fecal impaction can lead to great discomfort, high levels of agitation, and a state of worsening confusion.

7. INCONSISTENCY

Individuals with dementia are highly sensitive to changes in their environment and daily routine.[3] New caregivers, altered schedules for bathing and eating, different sleep patterns, or transfers to entirely new facilities can increase irritability, confusion, and acting-out behaviors. A careful social history taken from a reliable collateral source will oftentimes point to an environmental or social inconsistency as being the primary cause of recent changes in behavior or thinking.

Almost any psychiatric syndrome can be mimicked by a medical, neurologic, or environmental change in those who experience moderate to severe dementia.[2] ED physicians, in collaboration with the consulting psychiatrist, should rule out these most common causes before attributing new-onset mental status or behavioral changes solely to a mood or psychotic disorder.

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References

1. Tueth MJ, Zuberi P: Life-threatening psychiatric emergencies in the elderly: overview. J Geriatr Psychiatry Neurology 1999;12:60-66
2. Waxman HM, Dubin W, Klein M, et al: Geriatric psychiatry in the emergency department, II: evaluation and treatment of geriatric and nongeriatric admissions. J Am Geriatr Soc 1984;32:343-349
3. Kaplan BJ, Sadock VA (eds): Comprehensive Textbook of Psychiatry, 7th ed. Philadelphia: Lippincott Williams&Wilkins, 2000: 2980-3184
4. Nicolle LE: Resistant pathogens in urinary tract infections. J Am Geriatr Soc 2002;50:S230-S235 (suppl 7)
5. Nicholson S, High K, Gothelf S, et al: Gatifloxacin in community-based treatment of acute respiratory tract infections in the elderly. Diagn Microbiol Infect Dis 2002;44:109-116
6. Akhtar AJ, Alamy ME, Yoshikawa TT: Extrahepatic conditions and hepatic encephalopathy in elderly patients. Am J Med Sci 2002;324:1-4
7. Speechley M, Tinetti M: Falls and in injuries in frail and vigorous community elderly persons. J Am Geriatr Soc 1991;39:46-52
8. Lebowitz BD, Pearson JL, Cohen GD: Clinical Geriatric Psychopharmacology, Baltimore, MD, Williams and Wilkins, 1998
9. Ormel J, Kempen G, Penninx R, et al: Chronic medical conditions and mental health in older people: disability and psychosocial resources mediate specific mental health effects. Psychol Med 1997;27:1065-1077
10. Annels M, Koch T: Fecal impaction: older people's experiences and nursing practice. British Journal of Community Nursing 2002;7:118-126

PSOAS HYPERTROPHY MIMICKING RETROPERITONEAL TUMOR IN A CHILD WITH ABDOMINAL PAIN

To the Editor:—Diagnosing a retroperitoneal lesion, especially psoas compartment disease, is sometimes difficult when using only conventional radiographs, and a comprehensive list of pathogenic entities must be considered. Although the advent of computed tomography (CT) has markedly improved our understanding of disease patterns and has proved useful in assessing both the location and extent of retroperitoneal injuries, it is expensive and not cost-beneficial in some circumstances. A unique kidney, ureter, and bladder (KUB) image of a pediatric patient, who presented at our pediatric ED with an acute abdomen, resulted in an initially misleading diagnosis

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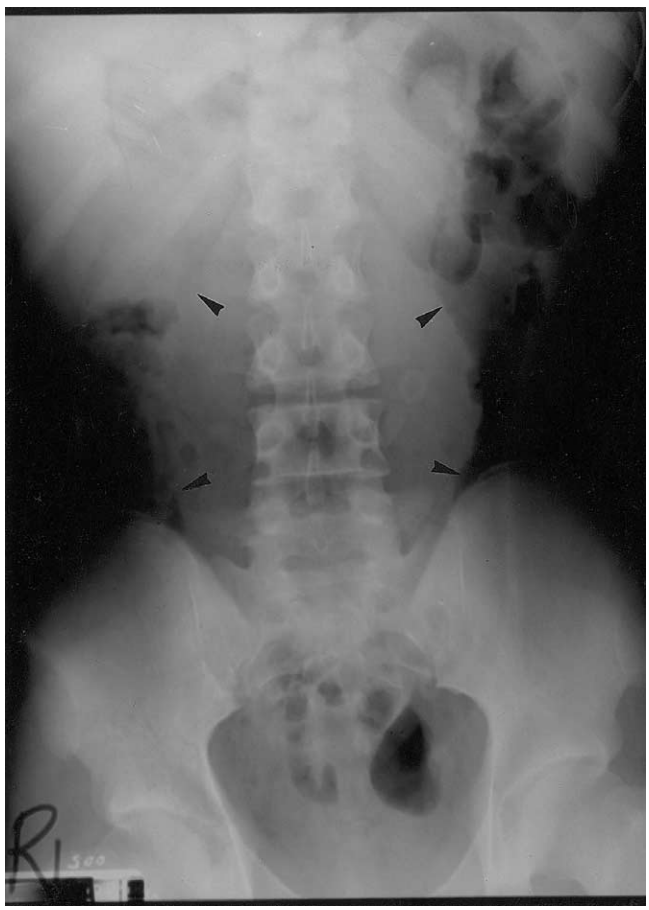

FIGURE 1. Emergency room radiogram of the kidney, ureter, and bladder (KUB) showing suspected retroperitoneal mass with remarkably bulging psoas margin (arrowhead).