During a 3-year period, all inpatients in the psychiatry unit underwent routine screening computed tomography (CT) in an effort to detect clinically unsuspected intracranial abnormalities. Of 261 patients examined who had no focal neurologic deficits, 103 had schizophrenia, 71 had depression, 48 had bipolar disorders, and 39 had paranoid delusions. Findings on 230 (88.1%) of the CT scans were within normal limits, and 27 (10.4%) showed only cortical atrophy. The remaining four cases (1.5%) demonstrated basal ganglia calcification (n = 2), old lacunar infarction (n = 1), or osteoma arising from the inner table of the skull (n = 1), all of which were considered to be clinically unrelated to the patients' psychiatric conditions. In the absence of focal neurologic deficits or other findings suggesting an intracranial abnormality (eg, papilledema, seizures, persistent or increasing headaches), there is no justification for routine CT scanning in patients admitted to the hospital for psychiatric disorders.

Index terms: Brain, atrophy, 13.83 • Brain, calcification, 13.81 • Brain, CT 10.1211
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Because psychiatric symptoms are nonspecific and commonly occur in patients with medical as well as psychiatric disorders, a variety of diagnostic examinations have been suggested as appropriate screening tests for patients with these types of complaints. In our institution, computed tomography (CT) of the head has been ordered routinely for all patients admitted to the inpatient psychiatric service, with the goal of detecting unsuspected and treatable disease involving the central nervous system (CNS). The purpose of this study was to assess the value of CT of the head as a screening procedure in patients with psychiatric symptoms.

MATERIALS AND METHODS

Records on all hospitalized psychiatric patients at Louisiana State University Medical Center in whom head CT scans were obtained during a 3-year period were studied retrospectively. Patients with previously documented, medically or surgically treatable CNS abnormalities were excluded from the study, as were those with focal neurologic deficits or other findings suggesting an intracranial abnormality (eg, papilledema, seizures, persistent or increasing headaches). The clinical diagnoses in the 261 patients who constituted the study population were as follows: schizophrenic disorders, 103; depression, 71; bipolar disorders, 48; and paranoid disorders, 39. The results of the CT examinations in these patients were tabulated, and the medical records of those patients in whom the CT diagnosis was neither "normal" nor "atrophy" were carefully examined to determine whether the abnormalities were clinically related to the patients' psychiatric conditions.

Of the 261 patients studied, 106 were male and 155 were female. The ages of the patients ranged from 16 to 79 years, with a median of 41 years.

RESULTS

Of the 261 screening CT scans of the head obtained in psychiatric inpatients in the study, 230 (88.1%) were normal and 27 (10.4%) showed only atrophy. Only four (1.5%) of the patients studied had possibly abnormal findings on CT scans. These included nonspecific basal ganglia calcification (n = 2), old lacunar infarction (n = 1), and osteoma arising from the inner table of the left frontal bone (n = 1). The distribution of CT findings in patients with specific psychiatric diagnoses is presented in Table 1.

A review of the medical records of the four patients with abnormal CT findings, combined with results of a consultation with their psychiatrists, indicated that the CT findings were clinically unrelated to the patients' psychiatric conditions.

DISCUSSION

Psychiatric symptoms are frequently the presenting manifestations of...
an underlying medical illness (1). The reported prevalence of medical causes of psychiatric symptoms has varied from 5% to 42% (2,3) depending on population and selective variables. In view of the relatively high prevalence of often undetected, yet potentially treatable, underlying medical disease, patients with psychiatric symptoms are often subjected to a battery of laboratory and radiographic examinations employed as screening procedures. Previous studies have indicated that neither plain skull radiography (4) nor radionuclide brain scanning (5) is of value as a screening procedure.

The results of our study clearly indicate the futility of using CT scanning of the head as a screening procedure in patients presenting with psychiatric symptoms. CT is highly effective in the detection of pathologic conditions in patients with focal neurologic deficits. Intracranial abnormalities such as vascular insults, hemorrhage, abscesses, congenital malformations, and primary or metastatic tumors can be detected with this diagnostic modality. However, these conditions rarely cause psychiatric symptoms in the absence of focal neurologic deficits (1).

We therefore conclude that there is no justification for routine CT scanning of the head as a screening procedure in patients admitted to the hospital for psychiatric disorders. Attention should rather be focused on the results of a thorough history and physical examination to detect focal neurologic deficits and other findings suggesting an intracranial abnormality (e.g., papilledema, seizures, persistent or increasing headaches), which are appropriately investigated with CT.

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References