Clinical audit of routine chest and skull radiographs in psychiatric patients.

Sir,

Notes and radiological examinations of 203 patients aged 16-78 years admitted to a tertiary military hospital were examined to identify the use of chest and skull radiography and computed tomography of brain. An abnormal chest or skull film warranted a detailed study of clinical notes and other relevant investigations. Notes on all patients having computed tomograms were studied.

Chest radiography was performed on 154 patients (75%). Results were abnormal in 6 patients (3.8%), 4 reports of infective shadowing were clinically suspected. Two reports of active Koch's infection were clinically suspected. None of these were considered to have precipitated or perpetuated the episodes of mental illness (Table 1). Skull radiography was carried out in 104 patients (51%). Three radiographs were abnormal (2.8%). In none of the cases, was psychiatric management altered by the findings although, these patients were appropriately treated for infective consolidation and Koch's infection. Computed tomography of brain was conducted on 10 patients (5%). Seven scans were normal (70%). Three patients with abnormal reports had evidence of organic neurological disease in their history or on examination. In no case, was psychiatric management altered because of CT findings although in all of these, confirmation of structural abnormality was desired (Table 1).

Our audit indicates that routine chest radiography in psychiatric patients may show abnormalities in clinically suspected cases in a small percentage (2.6%), and an even smaller number in clinically unsuspected cases (1.2%). Our results show a significantly smaller percentage of abnormal chest radiographs than 7.8% reported by an earlier study by Thomas et al., and even smaller than 13.8% reported by Larkin and 24% reported by White and Baraclough. The percentage of abnormal skull radiographs (2.8%) is comparable to 2.6% reported by White and Baraclough, and lower than 3.9%

reported by Thomas et al. None of the patients had any impact on their management because of routine chest and skull radiographs. None of the CT scans, generally considered to be costly investigations, altered the patients' management, though 3 scans confirmed structural abnormalities already suspected. The small number of patients scanned inhibits us drawing firm conclusions on the use of CT brain in psychiatric patients, a very similar view expressed by Lewis and Reveley. The relatively lower rate of abnormal chest radiographs in our population may be due to the fact that our patients mostly belonged to serving or retired army personnel, generally considered to be in a better state of health. Psychiatric patients with chest symptoms may be suffering from alcoholism (Hughes and Baraclough), we did not find this valid in our group of patients.

Our findings suggest that due to financial considerations as well as low positive rate, radiological examinations of chest and skull in psychiatric patients is necessary only when a strong clinical indication exists. Relatively limited use of computed tomography of brain, as in our study, is the correct approach in this group of patients.

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References

Table 1 - Use of radiology in patients admitted to Psychiatry Department

<table>
<thead>
<tr>
<th>Procedure</th>
<th>No. (% in which procedure performed)</th>
<th>Abnormal examinations</th>
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<tbody>
<tr>
<td>Chest Radiography</td>
<td>154 (75)</td>
<td>6* 3.8 3.0 4</td>
</tr>
<tr>
<td>Skull Radiography</td>
<td>104 (51)</td>
<td>3+ 2.8 1.4 2</td>
</tr>
<tr>
<td>Computed Tomography Brain</td>
<td>10 (.5)</td>
<td>3** 30.0 1.5 2</td>
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Abnormal findings in history or clinical examination: * Infective consolidation (4 cases), Koch's infection (2 cases), + Lytic areas (1 case), metallic foreign body (1 case), bony prominence right parietal bone with previous h/o injury (1 case); ** Squeezed ventricles? Benign intracranial hypertension (1 case), intracerebral metallic foreign body with cortical atrophy (1 case), hypodense area right internal capsule (1 case).