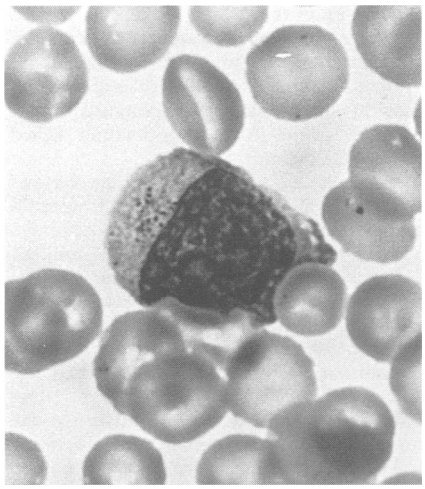

Figure 2 Lymphoid cells with azurophil granulae. Myelogram (originally × 100).

tion syndrome has a poor prognosis, with a 50% mortality rate. The nervous system is seldom involved in the syndrome. If such involvement appears, it usually does so towards the end of the course of the disease. A patient with sensorimotor neuropathy related to axonopathy and occasional demyelination has been recently reported, but in the context of a fulminant illness.[4]

The distinctive feature of our finding is the occurrence of transient cranial nerve involvement as the probable first sign of macrophage activation syndrome. It could be claimed that the symptomatology is related to the lymphoma. However, very little is known about neurological complications in T cell lymphoma, and their occurrence is probably rare.[5] Kaufman *et al*[5] have reported an involvement of the nervous system in 14 patients out of 104 cases, eight being related to direct complications. In only one patient, palsy of the sixth cranial nerve was the first sign. Neurological signs occurred between 10 and 102 weeks after diagnosis of lymphoma.

If polyneuropathy occurs in T cell lymphoma it is due to infiltration and the clinical evolution is usually stereotyped with slowly evolving sensorimotor signs.[6] Because there was no postmortem examination in our case, infiltration of peripheral nerves cannot be eliminated; but it is unlikely, considering the improvement in neurological signs. Meningoradiculitis could be evoked, but if that were so, there would have been a worsening of the initial signs.[6] Moreover, CSF examination and cerebral MRI were normal. All these indications lead us to suggest that the neurological signs in our patient could be related to a remitting/relapsing neuropathy due to non-cutaneous T cell lymphoma infiltrating peripheral nerves, to vasculitis or, more likely, to the neurotoxic effects of cytokines. Cytokines, especially TNF, are secreted in large amounts in macrophage activation syndrome, and TNF can induce general side effects and cerebral damage.[7]

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Paraneoplastic opsoclonus associated with cancer of the gall bladder

Opsoclonus is an ocular dyskinesia consisting in ample, conjugated, arrhythmic, multidirectional ocular movements which persist even with the eyes closed.[1] This syndrome has been described during the course of different cancers.[2] In infancy, neuroblastoma is the cancer most often associated with opsoclonus (in 2% to 7% of the cases).[3] In adults, opsoclonus is less common. Nevertheless, it is associated with a tumour in 20% of cases.[4]

Here, we report a case of opsoclonus associated with a cancer of the gall bladder.

A 72 year old, treated hypertensive woman, experienced the sudden onset of vertigo followed by impaired consciousness. At initial examination, her Glasgow score was 13. She showed opsoclonus associated with a bilateral kinetic cerebellar syndrome. The cranial nerves were intact and there was no sensory or motor deficit. Complete physical examination only showed conjunctival icterus.

Brain MRI showed a left frontal angioma measuring 7 mm in diameter without any impingement on cerebral parenchyma; the brain stem was normal. Two spinal taps were normal. A chest radiograph was normal. Laboratory studies showed an increase in alanine aminotransferase (43 IU/l), γ-glutamyl transferase (100 IU/l), and CA 19–9 (111 kIU/l). Abdominal ultrasound showed a heterogenous, polyploid tumorous structure in the gall bladder associated with hypoechogenic lesions in the liver and a thrombosis of the portal vein. Abdominal CT disclosed thickening of the left lateral wall of the gall bladder, liver metastases, and hilar adenopathy. Liver biopsy showed a sclerosing, moderately differentiated adenocarcinoma most suggestive of a pancreatobiliary origin.

Tests for anti-Hu, anti-Ri, and anti-Yo antibodies were negative. Immunoglobulin IV (0·4 g/kg/day during five days) and cortisone (Solumedrol, 0·5 g/day for five days) was ineffective. The patient died five weeks later. No necropsy was performed.

The diagnosis of opsoclonus remains clinical. It usually has an abrupt onset.[3] It is probably the result of a diencephalic or mesencephalic lesion with production of the abnormal movement by removal of normal saccadic generator inhibition.[2] Dysfunction of the pause neurons, which play a part in inhibiting the phasic neurons responsible for the appearance of jerks, is likely. The frontal angioma does not explain the opsoclonus. The opsoclonus was considered paraneoplastic because it was not associated with an infectious or tumorous rhombencephalitis. Other possible causes (toxic, metabolic, degenerative,[4] and vascular[5]) were excluded. The normal MRI, lumbar punctures, and the absence of anti-Ri antibodies, which have been associated with paraneoplastic opsoclonus occurring with carcinomas of the breast,[5] did not cast doubt on the diagnosis. Breast cancer and small cell cancer of the lung represent 70% of reported cases associated with opsoclonus in adults[3] and are sometimes discovered during necropsy.[4] In the present case, the histological differentiation seen during liver biopsy was strongly suggestive of a primary lesion in the gall bladder.Therefore, it is not likely that the lesions discovered were metastases from one of the above cited cancer localisations.

The possibility of this association means that the gall bladder should be included in the investigation of a paraneoplastic opsoclonus.

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Lethal hyperoral behaviour from the Klüver-Bucy syndrome

Clinicians have not sufficiently appreciated the danger of hyperoral behaviour in neurological disorders. A major cause of this behaviour is the Klüver-Bucy syndrome.[1] Originally described in monkeys after anterior bitemporal lobectomies, this syndrome includes indiscriminate dietary behaviour and a tendency to examine objects by mouth.[2] The complete syndrome also results in placidity, hypersexuality, hypermetamorphosis or a tendency to attend to any visual stimulus, and visual agnosia. We report two patients with the Klüver-Bucy syndrome who died as a consequence of their hyperoral behaviour.

Patient No 1 was a 40 year old man with epilepsy who developed persistent hyperoral behaviour after prolonged status epilepticus lasting several hours. On resolution of the seizures and recovery of consciousness, he

had a voracious appetite and indiscriminate eating habits which included paper towels, plants, styrofoam cups, and even faeces. At one point, he drank urine from a catheter bag. The patient was no longer his usual assertive self and had become quite docile. He tended to wander about the ward touching objects or people and made inappropriate comments of a sexual nature. On examination, his speech was dysarthric but fluent, and he had difficulty with the comprehension of multiple step commands. He had an amnesia, poor spatial orientation, and difficulty with constructions. The patient could not recognise colours, shapes, or objects by visual presentation; however, he could match the objects visually and name them by touch. He had normal visual acuity and visual fields, mild right hemiparesis, and right sided hyperreflexia. Brain CT showed a single hypolucency in the left temporoparietal area.

The source of his behaviour change was considered to be a combination of post-anoxic and epileptic injury involving both anterior temporal lobes. On the day of his death, the patient had a respiratory arrest after stuffing his mouth with surgical gauze. He had wandered about the ward picking up whatever he could find and putting it into his mouth. Neuropathological examination disclosed an old infarction in the left posterior cerebral artery territory, virtual absence of the left anterior temporal lobe, and atrophy of the right parahippocampal gyrus, hippocampus, and amygdala.

Patient No 2 was a 54 year old man with dementia who developed aggressive food seeking behaviour. He would go from room to room, take food from others' trays, and rapidly eat it. His first symptom of dementia was at the age of 50 when he displayed uncharacteristically poor judgment by exchanging a brand new car for an old one. Over the next four years, he had a progressive deterioration of judgment and memory. In addition, the patient became placid, began manually exploring his surroundings and grabbing at objects, and occasionally exposed himself to others. On examination, he was passive and mute, except for short phrase responses and echolalia. His memory was impaired, but calculation and construction abilities were preserved. He could visually recognise and name colours and objects. He had normal visual acuity, visual fields, motor testing, and reflexes.

The patient's CT showed disproportionate frontal lobe atrophy, and the patient was diagnosed with frontotemporal dementia complicated by the Klüver-Bucy syndrome. On the day of his death, he was seen to develop a breathing difficulty after a large meal. A Heimlich manoeuvre was performed, and he vomited a large amount of undigested food. There was massive aspiration of poorly masticated food in the pharynx, and the patient did not respond to resuscitation efforts. Neuropathological examination showed pronounced frontal lobe atrophy with Pick cells but no Pick bodies, and milder anterior temporal atrophy.

These two patients illustrate that hyperoral behaviour can be lethal. Both patients had the Klüver-Bucy syndrome with a tendency to engage in oral exploration of objects and hyperbulimia, or an excessive, insatiable appetite. In this syndrome, the hyperoral behaviour probably results from damage to the amygdalae in the anterior temporal lobes.[2] Patients with frontotemporal dementia, as in patient No 2, are prone to this syndrome,[1] but the Klüver-Bucy syndrome has many aetiologies including trauma, strokes, ischaemia, and epilepsy, as in patient No 1.

Other neurological causes of hyperoral behaviour may pose a danger to patients. Lesions of the ventromedial hypothalamic "satiety centre," such as hamartomas and germinomas, can lead to hyperphagia.[3,4] The Kleine-Levin syndrome presents with periodic hyperphagia and hypersomnolence, and there is one report of a patient with this syndrome who asphyxiated on a sausage.[5] Additional causes of hyperphagia include bilateral thalamic infarcts and congenital disorders such as the Prader-Willi syndrome and the Laurence-Moon-Biedl syndrome.

Neurologists, psychiatrists, and others who manage these patients need to be aware of the danger of death from asphyxiation or aspiration. Close supervision and other preventive measures are indicated to avoid this complication in patients with the Klüver-Bucy syndrome and related neurological disorders.

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Anxiety disorders in non-demented and demented elderly patients: prevalence and correlates

Anxiety disorders account for only a fraction of admissions to psychiatric hospital of patients over the age of 65 and a decline in anxiety disorders has been reported in outpatients.[1] Studies on prevalence rates that have used community based samples have reported mixed results, althought a vast majority found a decrease in prevalence in the elderly population.[2–4] This presents an interesting problem, as factors reported to be highly associated with anxiety disorders such as decreased physical health, bereavement, isolation, and decreased autonomy are more likely to increase with age.[5,6] A possible explanation for this anomaly might be that age related biological factors reduce the sensitivity of older people to these risk factors.

Althought dementia is a common disorder in elderly people which is often accompanied by psychiatric symptoms there are few studies examining the association between dementia and anxiety. To our knowledge the only published study has reported an increased rate of anxious mood in demented persons.[7] However, this study made no diagnoses of anxiety disorders and the patients were all at an early stage of dementia.

The aim of the present study was to estimate the prevalence of anxiety disorders in non-demented and demented subjects and to identify some of the variables associated with this in an elderly population. The participants came from a population based study in Stockholm, Sweden.

We used data from the follow up phase of a longitudinal investigation of adults aged 78 years and over residing in the Kungsholmen parish of Stockholm, Sweden. A total of 1101 persons comprised the study population. A more detailed description of the population and the methods used has been reported elsewhere.[8]

Information regarding psychiatric symptoms was derived from psychiatric examinations conducted by physicians using the comprehensive psychopathological rating scale (CPRS).[9] The physicians were trained and attended regular meetings to ensure that the CPRS was administered accurately and consistently. Information on psychiatric history and physical health was obtained by direct examination of the participants, interviews with informants, and previous medical records. Disabilities in daily living were assessed using the Katz index, which is a hierarchical scale (0–6) measuring independence in six activities of daily living.[10] Impairment in activities of daily living (ADL) was determined as decreased if the person had difficulties in two or more activities. Visual and hearing problems were graded by the physicians and only those having a practical problem were taken into account. The Swedish version of the mini mental state examination (MMSE), a global measure of cognitive functioning, was also administered to participants, with a maximum score of 30.[11] Dementia diagnosis was made using the DSM-III-R[12] criteria to maintain accuracy with previous phases of the study. The severity of dementia was classified according to the Washington clinical dementia rating scale (CDR).[13] The psychiatric diagnoses were combined in three groups: depressive, psychotic, and anxiety disorders. DSM-IV criteria[14] were used with the modification that even if an organic state was present—for example, dementia—the diagnosis were made. In addition to dementia only one axis I diagnosis was made. If the person had more than one diagnosis on axis I only the most clinically significant was registered.

To analyse differences in the prevalence of depressive, psychotic, and anxiety disorders, a one way analysis of variance was performed with severity of dementia as the between subjects factor. Odds ratios (ORs) and 95% confidence intervals (95% CIs) were computed to analyse differences between subjects with and without anxiety disorder.

Psychiatric information was available for 966 of the 1101 persons. Missing data were mostly due to severe cognitive impairment. Of the 966 participants 740 were women and 226 were men. The mean age of the sample was 84·2 (SD 4·3) years and the mean MMSE score was 25·5 (SD 4·5). There were 786 non-demented participants, and 180 were diagnosed with dementia. Of the 180 demented persons, 58 were diagnosed as questionable, 84 as mild, 31 as moderate, and seven as severely demented.

The table shows the prevalence of anxiety, psychotic, and depressive disorders with the population divided according to severity of dementia. Due to small numbers moderate (n = 31) and severe (n = 7) dementia