Hypophysial insufficiency in old age: a forgotten syndrome?

SIR—Non-functional pituitary adenoma is the most common cause of pan-hypopituitarism, but it is not often diagnosed in old age. Perhaps many adenomas do not cause hypophysial hypofunction, or their manifestations, if they arise, may be underestimated. We describe two older patients with chronic general malaise which was initially attributed to depression and which was found to be caused by hypophysial insufficiency resulting from a non-functioning adenoma. Both cases were characterized both by delay in diagnosis and treatment and by a gratifying response to hormone replacement.

Hypopituitarism is uncommon in elderly people and is rarely mentioned in standard texts of geriatric medicine [1]. Its clinical presentations may be non-specific and there are physiological endocrinological changes associated with age which may confound the interpretation of analytical data. This may lead to a delay in diagnosis and treatment.

Case 1: a 76-year-old man presented with a long history of fatigue, anorexia, drowsiness and slowed intellectual and motor activity. This combination of symptoms had been treated as a depressive syndrome but no improvement had taken place. Eventually, after an acute behavioural disturbance, the patient was admitted. The hormonal study showed hypopituitarism (Table 1). The plain skull radiographs revealed an enlarged pituitary fossa with erosion of posterior clinoid caused by a non-functional hypophysial adenoma of 28 mm diameter. We instituted a conservative treatment with 30 mg hydrocortisone and 25 μg levothyroxine per 24 h, increasing the levothyroxine to 150 μg per 24 h. The clinical response to hormone therapy was spectacular.

Case 2: a 72-year-old man with a depressive syndrome for over 2 years was admitted with a decrease in the level of consciousness. No motor deficiency was observed, but there was left homonymous hemianopia. On computerized axial tomography, multiple non-acute ischaemic infarcts were observed, together with a hypophysial adenoma with infra- and suprasellar growth which was destroying the posterior clinoid. After intravenous therapy his general condition improved and he was discharged pending the results of the functional studies. No hormonal treatment was prescribed. He was readmitted 30 days later to the internal medicine department due to a further drop in level of consciousness. The results of the functional studies (Table 1) confirmed hypopituitarism. Replacement treatment was initiated with hydrocortisone and levothyroxine with a good response. Following initiation of therapy a spontaneous decrease in tumour size was observed.

Non-functioning pituitary adenoma is the most common cause of hypophysial insufficiency in the elderly patient [2, 4]. In one autopsy series, pituitary adenomas were found in 10–20% of autopsies of subjects not suspected of having pituitary disease, although only 0.28% were greater than 10 mm in diameter [5]. This suggests that many adenomas do not cause hypophysial hypofunction, or that any manifestations that do arise are overlooked in subjects of over 65. In younger subjects, symptoms of thyroid, adrenal or gonadal insufficiency or visual field defects are usual [6], while in elderly subjects malaise, confusion or falls predominate and may be attributed to other diseases [2, 7].

In the assessment of hormonal assays, one must consider the somatic and biological changes that may accompany old age and illness, and drugs that may interfere with the interpretation [8, 9].

To detect hypophysial insufficiency, some authors consider it essential to determine the serum sodium and thyroxine concentrations [7], while others only consider it necessary to measure the thyroid stimulating hormone [1]. The insulin-induced hypoglycaemia test is not recommended for elderly patients with cardiac diseases.

Although trans-sphenoidal hypophysectomy is recommended when there are visual deficiencies or evidence of tumour growth [5, 6], our second patient had a spontaneous reduction in tumour size (as did

<table>
<thead>
<tr>
<th>Table 1. Hormonal values</th>
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<tbody>
<tr>
<td>Test</td>
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<tr>
<td></td>
</tr>
<tr>
<td>HGH (μg/l)</td>
</tr>
<tr>
<td>TSH (mU/l)</td>
</tr>
<tr>
<td>ACTH (pmol/l)</td>
</tr>
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<td>PRL (μg/l)</td>
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<tr>
<td>LH (IU/l)</td>
</tr>
<tr>
<td>FSH (IU/l)</td>
</tr>
<tr>
<td>Cortisol, 8 h (nmol/l)</td>
</tr>
<tr>
<td>Free T3 (nmol/l)</td>
</tr>
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<td>Free T4 (nmol/l)</td>
</tr>
</tbody>
</table>

HGH, human growth hormone; TSH, thyroid stimulating hormone; ACTH, adrenocorticotropic hormone; PRL, prolactin; LH, leutinizing hormone; FSH, follicle stimulating hormone; T3, triiodothyronine; T4, thyroxine.
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three of the 12 macro-adenomas in another series [10]). In both cases, hormone replacement treatment was followed by a dramatic improvement in symptoms and quality of life.

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Social support and activities of daily living in older Afro-Caribbean and white UK residents

SIR—There is uncertainty about the nature and degree of social support in older Afro-Caribbean migrants to the UK, an important issue in view of the reported positive association between social support and health [1]. For example, Blakemore and Boncham [2] note the “extended and interconnected networks of family and friends which are rooted in the island communities from which (Afro-Caribbean people) came”, yet comment that for some older Afro-Caribbean people these tides have been weakened or lost all together. To

Social networks were assessed by questions (based in part on those of Wenger [4]), addressing family size (living siblings and children), structure of household, number of other family members within easy reach, frequency of contact with friends and family living away, frequency of attendance at social functions and availability of a confidante. Functional ability was assessed by six questions [5], each examining possible difficulty with heavy chores (e.g. sweeping, vacuuming, changing sheets or bed linen, cleaning the toilet area, carrying heavy bags), light chores (e.g. washing dishes, cleaning kitchen surfaces, putting out rubbish, shopping), preparing and cooking a hot meal, putting on shoes and socks/stockings, bathing or washing all over and getting to or using the toilet. All questions were couched in the form ‘Are you able to...’ and answers to each were graded as 0 (no difficulty), 1 (some difficulty) and 2 (help needed). Participants were also asked whether and from whom they received help with each activity of daily living. χ² or Mann-Whitney tests were used to investigate between-group differences. The results are summarized in Table 1. Based on the Registrar General system [6], a significantly higher proportion of Afro-Caribbeans than whites were classified as being of manual (i.e. IIM–V) occupational social class. A significantly higher proportion of Afro-Caribbean participants were owner-occupiers compared with white participants. This was partly accounted for by a higher proportion of white subjects renting council property and living in ward-controlled sheltered accommodation. Afro-Caribbean participants reported a larger number of family members within easy reach and a greater likelihood of at least one other person (usually a spouse, child or grandchild) living in the household. On the other hand, there were no significant differences between the ethnic groups in frequency of face-to-face contact with family members living away, frequency of face-to-face contact with friends, frequency of attendance at social meetings or availability of a confidante. A significantly higher proportion of Afro-Caribbean participants experienced difficulty with at least one activity of daily living compared with whites. When type of activity of daily living was examined separately, this effect was accounted for by difficulty with heavy chores (P < 0.05). There was no significant difference between the ethnic groups in the proportion of participants receiving help from their families, either
Table 1. Demographic, social and functional information for the two ethnic groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Afro-Caribbean</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, years (s.d.)</td>
<td>71.4 (5.5)</td>
<td>71.7 (5.9)</td>
</tr>
<tr>
<td>Social class (% manual)</td>
<td>62</td>
<td>38***</td>
</tr>
<tr>
<td>Owner-occupier (%)</td>
<td>64</td>
<td>40*</td>
</tr>
<tr>
<td>Other person(s) in house (%)</td>
<td>80</td>
<td>58*</td>
</tr>
<tr>
<td>Median (range) no. family in area</td>
<td>17.0 (0-34)</td>
<td>2.5 (0-5)**</td>
</tr>
<tr>
<td>Contact with family*</td>
<td>2.5 (0-5)</td>
<td>2.5 (0-5)</td>
</tr>
<tr>
<td>Contact with friends*</td>
<td>2.5 (0-5)</td>
<td>2.0 (1-4)</td>
</tr>
<tr>
<td>Difficulty with ADL (%)</td>
<td>64</td>
<td>40*</td>
</tr>
<tr>
<td>Receiving help with ADL from family (%)b</td>
<td>71</td>
<td>57</td>
</tr>
</tbody>
</table>

ADL, activities of daily living.
*Median (range) per month (outside house).
Denominator of 83.
*P < 0.05, **P < 0.01, ***P < 0.005.

when all participants were included or when only those experiencing difficulty with at least one activity of daily living were considered. Three Afro-Caribbean and three white participants received professional or voluntary help from an outside agency.

The major limitation of this study was the high refusal rate, possibly associated with our identity as members of a psychiatric institute. Refusal rates did not differ between the ethnic groups, although we cannot rule out the possibility that reasons for refusal differed across the two ethnic groups. Furthermore, in spite of being drawn from the same political-geographical region, Afro-Caribbean participants were more frequently of manual occupational social background than the white participants and were under-represented in warden-controlled sheltered accommodation (nine white participants in this type of accommodation, compared to only one Afro-Caribbean participant). The latter is unlikely to be a sampling artefact; while 10.4% of the participants in our door-knocking register were Afro-Caribbean, only 1.7% of the register living in sheltered accommodation belonged to this ethnic group. Even with these sampling difficulties in mind, however, this small study casts some doubt on the expectation that Afro-Caribbean elders with functional impairment are more likely than whites to receive help from their families, in spite of a greater proximity of family members, within both the household and the neighbourhood.

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Improving the care of elderly diabetic patients

SIR—We read Hendra and Sinclair’s report of the need to provide special support for elderly diabetic patients [1] with great interest. We have been caring for older people with diabetes mellitus for many years and are
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well aware of the financial and organizational difficulties involved in managing this disease, the prevalence of which continues to increase worldwide. Recent data acquired from a randomized Italian multicentre study in which we participated show that the prevalence of diabetes in subjects over 65 years of age is 13.6%, with a wide inter-regional variability, reaching 22.6% in our study sample from eastern Sicily [2].

A commission with representatives from all Italian societies of medicine that deal with the management of diabetic patients drew up a document entitled Project for the Organization of Assistance of Adult Diabetes. One of us (L.M.), acting as representative of the Italian Society of Geriatrics and Gerontology, was responsible for inserting into the text points relevant to elderly patients. Many of these concur with those made by Hendra and Sinclair—e.g. the necessity not to strive to normalize glycaemia at all costs and the need to create a multidisciplinary team to assist elderly diabetic patients.

We believe that a clearer and more rational picture of diabetes in elderly subjects can be gained by separating patients into two groups, differentiating those who presented with diabetes in early life and middle age from those with disease onset after 70 [3, 4]. Not only do these two types of diabetes have a different pathogenesis, clinical and therapeutic course, but the patients’ ability to cope with the disease varied in the two groups. We believe that the pathogenesis of late-life-onset diabetes is due to hypoperfusion of the islets of Langerhans, resulting from atherosclerosis of the pancreatic arterioles. The latter is usually part of generalized atherosclerosis. Patients with late-life diabetes have a greater prevalence of macro- rather than micro-angiopathic complications and may require a prompt switch to insulin treatment.

While younger diabetic patients are used to coping with their condition, their real problems derive from its complications. By contrast, elderly patients confronted with diabetes late in life may find it difficult to change their lifestyle, habits and diet. Many are not able to learn how to control the disease or cope adequately with oral or insulin treatment. Moreover, they often live alone or with an elderly spouse and have difficulties in preparing suitable food and eating at regular hours. Loneliness can affect regular drug administration, with consequent metabolic imbalance, including the risk of hyper- and hypoglycaemic crises.

Thus, the management of vulnerable elderly diabetic patients should take into account self-sufficiency, cultural contexts and the family situation.

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Complications of laparoscopic cholecystectomy

SIR—When Mayol et al. [1] cited the study by Smith and Max [2] for the cholecystectomy-related statistic of 50% for morbidity-mortality rate in patients older than 70 undergoing the ‘open’ procedure, they may have unintentionally given the impression that for this procedure operative mortality was very high. In reality, for patients aged over 70—and also for those aged over 74—operative mortality can be as low as 0–2% after elective ‘open’ cholecystectomy [3, 4]. Although this relatively modest mortality risk is offset by the fact that post-operative morbidity is reportedly greater after ‘open’ cholecystectomy than after the laparoscopic procedure [5], the post-operative complication which matters most, bile duct injury, is more common after the laparoscopic procedure [6]. The most stringent test of the justification for laparoscopic cholecystectomy lies in its comparison with ‘small-incision’ cholecystectomy, the outcome of the comparison being a documentation of comparable rates between the two procedures for hospital stay and time to resume full activity [7].

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What degree of medical treatment do nursing home residents want in case of life-threatening disease?

SIR—I think the Danish philosopher Kiergarten said: “Those who want much are always much in need”. The research of Moe and Schroll [1] raises important questions. A difference between the opinions of staff and relatives concerning treatment of older people in nursing homes is not surprising for relatives, who, having abdicated their responsibility to the staff of the nursing home at the time of admission, experience guilt related to the need to see that the very best is done for their parent or other relative. However, by recommending that nursing homes should discuss with relatives of incompetent residents their preferences for treatment, Moe and Schroll seem to want to abdicate to the relatives’ medical responsibility for decision-making at the end of life.

Although patients may choose to reject optimal advice and refuse treatment, they cannot choose the treatment to be given. Also, doctors may not abdicate their professional responsibility for giving the correct treatment. Indeed, when living wills are brought into play, the responsibility for correct decision-making at that time can lie very heavily on the doctor.

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Author’s reply

SIR—In the article we concluded that nursing home staff should try to discuss with relatives of incompetent residents their preferences for treatment, should the resident develop a serious disease, before an acute situation arises.

Professor Millard writes that we seem to want to abdicate medical responsibility for decision-making, but this is not our intention. The primary purpose of involving the relatives is to try to discover what expectations they have, and in this way prevent any conflict arising in an acute situation.

He has, however, pointed out an important aspect: it is essential when talking to the relatives to make it clear that the responsibility for choice of treatment remains with the professional staff—but the relatives’ wishes should constitute one of the factors in the doctor’s decision of choice of treatment.

In Western countries there is an increasing respect for the individual’s autonomy and therefore a need to consider the wishes of the relatives if a resident becomes incompetent.

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