Obstructive Airways Disease: A Hidden Disability in the Aged

Elderly people living in Britain have a high prevalence of chronic obstructive airways disease, reflecting the number who began smoking in their younger days. Smoking uptake reached its peak in the cohort of men born between 1910 and 1920 [1]. Community-dwelling elderly people cite chest problems as a cause of severe disability second only to musculo-skeletal disorders [2], yet doctors have been slow to recognize the problem. Elderly people with moderate or severe respiratory disease and impairment may not appear to be disabled. They do not occupy rehabilitation beds for long periods, and do not rely greatly on community services for physical support. Most are able to wash, dress and mobilize independently within the home, although simple acts of washing and dressing may take perhaps an hour and leave them exhausted. It is not surprising that the medical community does not have, as yet, validated tools for measuring disability in this elderly group. Most of the questionnaires used in younger patients with airways disease measure ‘quality of life’ rather than disability or activities of daily living (ADL) and are not validated in older people [3-5]. Standard ADL scales employed in other disabling conditions are only just beginning to be assessed in obstructive airways disease [6]. A survey of the UK and US literature revealed that only 10% of published papers in respiratory journals related either in whole or in part to elderly subjects and that only 4% of papers in geriatrics journals dealt with respiratory topics. Elderly respiratory patients seem to have fallen between stools occupied by respiratory physicians on the one side and geriatricians on the other. General practitioners, conversely, are familiar with the scale of the medical problem (if not the level of disability); for every 1000 patients over the age of 65 years, there are over 700 GP respiratory consultations per annum [7].

Recent research suggests an under-diagnosis of this medical problem. Reversible airways disease has been estimated to affect 41% of residential care dwellers [8]. The study of Dow et al. [9] suggested a prevalence rate of airways obstruction in old people of 16% and revealed that 25% of the elderly population had airways lability. Our studies in inner-city Manchester suggest that nearly 30% of the over-65s have airways obstruction, that nearly all are symptomatic, and that, despite showing a significant reversible component, most are undiagnosed and untreated [10].

If the problem is so large why is it often undetected? The answer would seem to be in not using objective measurements of lung function. The three epidemiological surveys cited above [8-10] all employed respiratory function measurement as well as questionnaire assessment, but a study using only disease-specific questionnaires revealed that 50% or more of old people living at home have significant respiratory symptoms [11]. Conversely, records from 41 general practices in the Northern Region implied a reduction in the diagnosed prevalence of (and prescribed treatment for) chronic airways obstruction in those over 70 years old [12].

Unfortunately, symptoms such as cough, wheeze and breathlessness have a low specificity for respiratory disease with between 30% and 60% of older adults reporting symptoms [9-11, 13-16]. The so-called ‘bronchial irritability syndrome’ (attacks of cough, wheeze or breathlessness on exposure to cold air, car exhaust, hairspray or perfumes) which is so characteristic of asthma in younger adults [17], is of little diagnostic value in old age [11]. Elderly people have markedly impaired appreciation of symptoms associated with acute bronchoconstriction [18].

Thus a questionnaire or conventional history-taking which rely on historical clues to reveal airways obstruction in elderly people, will fail to detect most sufferers, and objective lung function assessment is essential. Yet general practice diagnosis of chronic airways obstruction in old age is often not based on lung function assessment [12], and geriatricians practising in Scotland admitted measuring lung function in only 25% of patients and reversibility in only 10% [19].

Therefore, where clinical suspicion exists, airways obstruction in the elderly cannot be accurately diagnosed and assessed without lung function measurement—preferably spirometry, as peak flow may be an unreliable indicator of airways obstruction in chronic obstructive pulmonary disease. This will require ready access to lung function laboratories and equipment.

What of screening? Currently there is screening of elderly patients (as opposed to populations) for conditions which have lower prevalence than chronic airways obstruction. For example, most elderly medical inpatients are screened for thyroid disorder, where there is a detection rate of 6-7% [20, 21]. Screening for vitamin B12 deficiency is common practice, despite a detection rate in old patients of only 1-3% [22, 23]. The rationale behind such screening efforts is that: (i) in older people the condition may present nonspecifically; (ii) the screening test is simple and safe;
(iii) treatment of the condition, when detected, is benign and may produce improvement in morbidity, quality of life and (sometimes) mortality.

Chronic airways disease in old age may present nonspecifically [9–11, 13–16], but quality of life is often impaired by airways obstruction [24]. Respiratory function tests are relatively simple and straightforward (and certainly safe) and current inhaled treatment is relatively benign. It is, however, unknown whether treating those detected in any screening process, as opposed to those presenting with classical respiratory complaints, would improve morbidity, function, quality of life or mortality.

We need trials of screening programmes both in an inpatient elderly population (whose associated smoking-related pathology may make the condition more common) and in general practice, where emphasis might be placed on practicals and on the time constraints faced by the primary care team. In view of the current emphasis on detection of treatable pathology in this setting, it is possible that such assessment may eventually form part of the ‘over-75 check’. However, even a high yield of airways obstruction from such trials could not be regarded as evidence for their widespread application without a high prevalence of reversibility and clinical response to treatment from symptom scores or ADL measurement.

Screening efforts might also be directed at high risk groups such as those in whom it is proposed to prescribe beta-blockers for angina, hypertension or (topically) for glaucoma. A recent study by Diggory et al. [25] has added weight to this argument, revealing that 26% of patients aged 60 years or more receiving topical timolol for glaucoma suffered airways obstruction which was at least partially reversed by changing to alternative medication.

Finally, what of rehabilitation for those elderly patients disabled by airways obstruction? This area has been extensively reviewed [26, 27]. Most studies of respiratory rehabilitation have concentrated on younger patients and it has only recently been shown that frail elderly patients with severe airways obstruction can tolerate the exercise protocols needed to produce any objective benefit, and that the standard measurement tools used in younger patients are valid in the elderly [28]. Respiratory rehabilitation is an inter-disciplinary team effort, well suited to the skills of the care-of-the-elderly team. It does not simply concentrate on physical training techniques but comprises education of the patient and family, psychological assessment and support, relaxation techniques, breathing re-education, smoking cessation support, nutritional assessment and optimization of pharmacological treatment. A note of caution is needed; a well-run respiratory rehabilitation programme is expensive in terms of time and effort, and such expense must be balanced against proven benefits. There is debate as to the long-term value of such programmes, with some work showing only transitory benefit in the absence of a continuation programme [29], and other work contradicting this [30]. Further research is needed to determine whether some of the improvement in exercise tolerance in elderly patients is maintained one year after the end of the programme, and whether there is any reduction in hospitalization rates.

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References
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