Poster and platform presentations

ELDERLY FALLERS: FEASIBILITY OF ASSESSMENT AND INTERVENTION IN PRIMARY CARE BY A FALLS NURSE

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Introduction
Interventions to reduce the incidence of falls will be necessary to achieve the Health of the Nation target of reducing fatal accidents by >33% by the year 2005 (Dept Health, London, HMSO 1992). Whilst post fall assessment in the hospital setting and exercise programmes have shown benefit, most falls occur in the community. We studied the effect of falls assessment and intervention in the primary care setting.

Methods
Fallers aged >65 years in one practice over 8 months were identified. Community dwellers were visited by a "Falls Nurse" and assessment of environmental and "intrinsic" risk factors for falls were made. Referrals to other agencies took place if necessary. A subgroup undertook a 6 week exercise and education programme, including falls training, muscle strengthening, Tai Chi, and education.

Results
There were 144 falls in 99 individuals (7% of those aged >65). Fifty seven falls (40%) resulted in Accident and Emergency attendance: 16 fallers (16%) were admitted, 21 (21%) sustained a fracture. Sixty three (64%) fallers were assessed; 2 others refused and 34 were not back at home. Of those assessed, 28 were referred to their general practitioner, and 95 referrals were made to agencies such as social services or occupational therapy; 36 fallers requiring help from more than one. Eight of 11 patients completed the exercise and education programme, with improvement in reach, grip strength, sit-to-stand time and fear of falling.

Conclusion
Many fallers had risk factors requiring help from multiple agencies. The intervention programme produced physiological and psychological benefit. This study shows that assessment and intervention with elderly fallers in the community is feasible and larger studies may demonstrate a reduction in falls incidence.

EFFECT OF ZINC SUPPLEMENTATION ON PLASMA OSTEOCALCIN LEVELS IN HEALTHY YOUNG AND ELDERLY SUBJECTS

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Introduction
Osteoporosis is characterised by low bone mass and increased bone fragility. Osteocalcin is the major non-collagenous bone matrix protein. Newly synthesised osteocalcin is incorporated into the bone matrix and plasma osteocalcin levels can be used as a measure of osteoblast activity. Zinc is involved in bone synthesis and mineralisation, in vitro and animal studies have suggested that zinc supplementation could stimulate bone formation. The aim of this investigation was to determine whether zinc supplementation affected osteocalcin levels in groups of young and elderly subjects.

Methods
7 healthy young (6 male, 1 female aged 21-24y) and 7 elderly (6 male, 1 female aged 69-85y) were studied. Fasting blood samples were taken and the plasma frozen. Subjects were supplemented for four weeks with 10mg/d Zn then blood samples were taken again. Osteocalcin levels in the samples were determined by IRMA (Immutopics, Inc, USA).

Results

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Osteocalcin (ng/ml)</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young Pre-supp</td>
<td>7.83</td>
<td>0.37</td>
</tr>
<tr>
<td>Young Post-supp</td>
<td>7.14*</td>
<td>0.36</td>
</tr>
<tr>
<td>Elderly Pre-supp</td>
<td>4.63</td>
<td>0.48</td>
</tr>
<tr>
<td>Elderly Post-supp</td>
<td>4.7</td>
<td>0.47</td>
</tr>
</tbody>
</table>

*p<0.05 compared with Young Pre

Conclusions
The elderly subjects had a reduced osteocalcin level compared with the young subjects. Zinc supplementation produced an unexpected fall in the young with no effect in the elderly.

VALIDATION OF FALLS, CONFIDENCE AND DIZZINESS-RELATED QUALITY OF LIFE MEASURES IN AN ELDERLY BRITISH POPULATION

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Introduction
Falls and dizziness in older patients result in physical and psychological morbidity and loss of confidence and independence. Quality of life (QoL) measures examining these symptoms were developed in North America (Activities-specific Balance Confidence [ABC] Scale, Falls Efficacy Scale [FES] and Dizziness Handicap Inventory [DHI]), but contain items unfamiliar to the elderly in the UK. We modified the ABC and DHI into a more accessible format, and studied their validity and reliability alone and vs the FES.

Method
240 of 260 questionnaires administered to individuals attending our regional syncope centre were completed. Test-retest reliability was determined by postal-return questionnaires 3 days after initial assessment. Internal and external validity (Cronbach's α, Pearson's r) [Table 1] and test-retest reliability (Pearson's r) were ascertained for each scale. 100 reported having fallen.

Results
Significant differences were found in the scores of all three scales between fallers and non-fallers (p<0.001) for all three scales. The modified ABC also had a significantly greater ability to differentiate these two groups than the FES (Δt = 2.38, p<0.05). Pearson's r for test-retest reliability - ABC = 0.99, DHI = 0.99, FES = 1.00

<table>
<thead>
<tr>
<th>Table</th>
<th>ABC</th>
<th>FES</th>
<th>DHI</th>
<th>α</th>
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<tbody>
<tr>
<td>ABC</td>
<td>-0.521</td>
<td>-0.771</td>
<td>0.9858</td>
<td></td>
</tr>
<tr>
<td>FES</td>
<td></td>
<td>0.677</td>
<td>0.9823</td>
<td></td>
</tr>
<tr>
<td>DHI</td>
<td>-0.771</td>
<td>0.677</td>
<td>0.9222</td>
<td></td>
</tr>
</tbody>
</table>

P<0.001 for all values Cronbach's α > 0.7 considered significant

Poster and platform presentations
Conclusion
Subjects more easily understood the modified ABC and DHI. The scales correlated highly with each other, but the UK adaptation of the ABC was superior to the FES in its ability to differentiate fallers from non-fallers. In this group of patients, the modified ABC, FES and DHI are reliable and valid for use in the UK, but we suggest that the ABC be used in preference to the FES when examining falls-related QoL in the UK.

Characteristics of Older Patients Attending Accident and Emergency Facilities with Unexplained Falls and an Asystolic Response to Carotid Sinus Massage
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Introduction
The cardioinhibitory subtype of carotid sinus hypersensitivity (CICSH) is a potentially treatable cause of unexplained falls and syncope. It is diagnosed when carotid sinus massage (CSM) produces an asystolic response of 3 or more seconds. Subjects attending Accident and Emergency (A&E) with "unexplained" (no obvious cause) falls often are not investigated for this condition.

Methodology
Subjects aged 65 years or over, who attended A&E with unexplained falls were invited to attend for CSM. CSM was performed sequentially on the right and then left sides, initially supine and then at 70° head-up tilt by a single investigator. CSM was discontinued once CICSH was demonstrated. 41 consecutive patients aged 65 years or over with a cardioinhibitory response are presented.

Results
51% of patients were female, mean age 77 (range 65-89) years, had an average of 1.4 unexplained falls in the previous year and a mean fall duration of 35 months. 63% had no prodrome, 71% had associated loss of consciousness, 59% injurious falls, 10% had a fracture and 24% were admitted as a result of the index fall. 22% had hypertension, 10% previous stroke, 2% previous myocardial infarction, 20% were current and 26% were ex-smokers. 61% were on cardiovascular medications. Head up tilt produced a vasovagal response in 7%, 37% had orthostatic hypotension and 14% had both.

Conclusion
The majority of older patients with an asystolic response who present to A&E with unexplained falls, have no prodrome, deny loss of consciousness and have associated co-morbidity including a resulting fracture in a tenth. Benefit for pacing intervention is unproven in this group but guidelines for management in A&E should highlight possible cardiovascular instability in such patients with unexplained falls.

Self-Esteem After Syncope and Falls: A Qualitative Study
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Introduction
Clinical experience suggested that elderly people, especially those who felt they were “doing all right for their age” risk experiencing a blow to their self-esteem if they suffer a sudden onset of falling. In this qualitative study, we sought to establish how common such feelings might be, what factors are likely to precipitate such reactions and whether any interventions are indicated.

Methods
All people over 70 yrs of age admitted to a cardiothoracic unit over a six-month period, for first-time implantation of a pacemaker were screened for suitability for inclusion. Particular attention was paid to those who had experienced falls as a result of syncope. Patients with cognitive impairment, communication difficulties, advanced malignancy, severe immobility, or living in a care home were excluded.

Results
Data from 27 interviewees are reported; mean age 82 yrs SD 6 yrs, N=8 men (30%). Half the interviewees (N=14) appeared to have some or a marked threat to their self-image as a result of syncope and falls whereas the others denied any such effect. The latter were more likely to be able to attribute the cause of their falls to problems beyond their own control, e.g. knew they had a heart problem, whereas the former were more likely to blame themselves, e.g.'I should have been more careful’ or to have felt especially active for their age prior to the fall.

Conclusions
Although pacing should reduce syncope and falls, some elderly people may still need encouragement to help them regain confidence in their ability to move about and do the things they want to do.

Secondary Prevention of Hip Fracture: Developing a Simple Protocol for Trauma Wards
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Introduction
People with one osteoporotic fracture are at increased risk of a second, but a recent audit found that less than 20% of our hip fracture patients were offered secondary prophylaxis. Each year our trauma unit deals with several hundred hip fracture patients, and detailed investigation is not possible for them all. We are therefore developing a treatment protocol that might routinely be applied to all those presenting with an osteoporotic fracture. Vitamin D deficiency and secondary hyperparathyroidism are common in patients with hip fracture, and appear to contribute to bone fragility. Such deficiency may be corrected using i.m. vitamin D injections, but six-monthly oral vitamin D tablets would be a simple, cheap, and more acceptable alternative approach.