

Observation of SIGN guidelines in nursing homes

Nursing home patients constitute a very frail and ever increasing group who are at increased risk of falls and fractures. Guidelines from the Scottish Intercollegiate Guidelines Network (SIGN) on osteoporosis are particularly relevant for this group and in this article, **Dr Sureshini Sanders** reviews the adherence of SIGN guidelines in two nursing homes, covered by a West Lothian practice.

Guidelines from the Scottish Intercollegiate Guidelines Network (SIGN) on osteoporosis were released in 2003 and are particularly relevant in a growing elderly population^{1,2}. Elderly falls and fractures, and their consequent morbidity and mortality, represent a significant consumer of public health resources¹. The guidelines recommend that in order to reduce fracture risk at all sites, elderly women who have osteoporosis confirmed should be considered for treatment with a bisphosphonate plus/or calcium and vitamin D³.

Residents of nursing homes constitute a vulnerable group of elderly patients who are at risk of falls and fractures. Our practice had links with the local hospital and it was observed that there were a growing number of falls and fractures referred particularly from the nursing homes.

This caused us some concern and it was agreed that one General Practitioner (GP) in the practice would review the notes of residents in the homes covered by the practice to evaluate whether patients in the homes with osteoporosis were being treated in accordance with the SIGN guidelines. Therefore, the overall aim of this study was to evaluate the adherence of the SIGN guidelines in two nursing homes, covered by our general practice in West Lothian.

Method

The setting was a 12,453 patient practice in West Lothian, which covered two nursing homes with a total of 128 residents. A computer search was carried out and patients in the nursing homes with documented osteoporosis on X-ray or Dual energy X-ray Absorptiometry (DXA) scanning had their notes pulled. This revealed a very small number of patients and so a manual search was then required and some further patients were identified who did not have their computer summaries up-to-date.

At risk groups for osteoporosis were also identified, in accordance with SIGN guidelines,³ and thus patients who had multiple fractures, renal failure, ulcerative colitis and rheumatoid arthritis were also included in the study.

Results

This study identified 13 patients in the nursing homes (10.1 per cent) of which eight patients (61.5 per cent) were on no treatment. Two patients were on a bisphosphonate and not on calcium and vitamin D, and one patient was on calcium and vitamin D, but was not on a bisphosphonate. Only two patients (15.4 per cent) were appropriately treated with both.

Table 1. Treatment before study of at risk group

	No treatment	Bisphosphonate	Calcium & vitamin D	On both
Osteoporosis	8	2	1	2
Fractures	10	1	2	1
Recurrent falls	4	-	1	1
Osteoarthritis	12	1	5	-
Osteoarthritis replaced hip/knee	2	-	-	-
Renal failure	1	-	-	-
Renal failure/ diabetic	2	-	-	-
Ulcerative colitis	1	-	-	-
Rheumatoid arthritis	1	-	-	-
Decrease calcium on bloods	2	-	-	-
Osteopenia on X-ray	2	-	-	-
TOTAL	46	4	9	4

A further group of 14 patients had a history of one or more fractures or recurrent falls and of that group, only four patients (15.4 per cent) were on any treatment at all and 10 (76.9 per cent) were on no treatment.

Three patients had renal failure, ulcerative colitis and rheumatoid arthritis. The SIGN guidelines suggest that these individuals would be particularly at risk of osteoporosis but none of them were on treatment.

Other groups also included in the study are those with osteopenia on X-ray and a low blood calcium. These groups do not fall within the SIGN guidelines treatment regime, but extensive research by Chapuy⁴ and other experts on osteoporotic treatment, indicate that all nursing home patients may benefit from treatment with calcium and vitamin D, provided there are no contraindications.

The Chapuy study has been criticised because it is a selected group, of women only, which might not reflect the whole elderly population (the average age, for instance, was in the mid-80s); but it probably does reflect any similar UK population of elderly but mobile people living in homes⁵.

There have been a number of studies that have reinforced that elderly patients, particularly those over 80 years, are at risk of falls and fractures. It is thought that calcium and vitamin D supplementation improves balance and decreases the rates of falls and fractures⁶.

Ideally it would be useful to have DXA scanning on a number of these elderly patients at risk of osteoporosis, but technically this is difficult with this particularly frail group in the nursing homes and there is considerable evidence that many of these patients would benefit from treatment, irrespective of DXA scan results.

The doctors in our partnership did discuss whether many of the individuals in the nursing homes should also be on bisphosphonates as well as calcium and vitamin D and it was decided that where osteoporosis is clearly noted, a bisphosphonate should be introduced. It was thought, however, that it might be difficult for the nursing homes to administer a bisphosphonate in the appropriate manner to large numbers of people. Also in the face of limited studies in this area, there is yet to be adequate evidence to suggest how useful this would be for all nursing home patients.

Patients that had a contraindication, e.g. complete immobility, renal calculi or carcinoma,

Discussion

were excluded from treatment. It was agreed to start calcium and vitamin D supplementation on all the remaining patients and for those patients with proven osteoporosis, a bisphosphonate was also added. A letter was written to each of the homes indicating the partnership's intentions.

Prior to this study only two of the 13 nursing home patients with osteoporosis (15.4 per cent) were on a bisphosphonate and calcium and vitamin D. After we audited our results, 100 per cent of patients with documented osteoporosis were on a bisphosphonate, calcium and vitamin D.

Of all the 128 residents in the homes, only nine were on calcium and vitamin D supplementation (70.3 per cent). Yet after the results of this audit were shared, 93.7 per cent were placed on calcium and vitamin D. We have reviewed this audit on an annual basis to ensure that nursing home patients continue to get the best possible treatment to prevent falls and fractures.

Conclusion

The practice decided to give all patients in the homes they covered, treatment with calcium and vitamin D², provided there were no medical reasons to exclude them. Patients with proven osteoporosis were also prescribed a bisphosphonate. This prescribing decision has been continued by the practice to date.

Nursing home patients constitute a very frail and ever increasing group². Many of them are admitted into the homes due to poor mobility and falls and therefore it is extremely important that they receive any treatment available to decrease the frequency of these events.

There are a number of studies³ that have shown that most of these patients would benefit from calcium and vitamin D and that those with osteoporosis would further benefit from the addition of a bisphosphonate¹.

Many GPs are aware of current guidelines, but perhaps need to be more alert to the needs of the nursing home patients who are particularly vulnerable. There may also be a role in educating the staff in the homes about the dietary and drug regimes, which may help these individuals and decrease further falls and fractures ■ GM

Conflict of interest: none declared

References

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Key points

- > Nursing home patients constitute a very frail and ever increasing group.
- > There have been a number of studies that have reinforced that elderly patients, particularly those over 80 years, are at risk of falls and fractures.
- > Elderly falls and fractures and their consequent morbidity and mortality, represent a significant consumer of public health resources.
- > There are a number of studies that have shown that most of these patients would benefit from calcium and vitamin D.
- > It was thought, however, that it might be difficult for the nursing homes to administer a bisphosphonate in the appropriate manner to large numbers of people.