Introduction

Vertebral compression fractures are the most common osteoporosis-related fracture and associated with morbidity and mortality. (1)

Under reporting of these incidental fractures is common. (2)

We aimed to look at local practice in a cohort of patients with a confirmed neck of femur (NOF) fracture to identify presence of incidental spinal fractures before their NOF fracture.

In addition we reviewed medication histories in this cohort of patients to identify if they were on bone protection.

Methods

Retrospective study of all NOF fracture patients attending Royal Victoria Infirmary, Newcastle-upon-Tyne between; 2/6/2013-26/5/2015.

Patients identified through radiology information system (RIS) with confirmed neck of femur fracture who had previous spinal imaging within preceding 10 years, irrespective of indication.

Imaging reviewed to identify if previous spinal fractures present and reported, on following modalities; X-ray, CT and MRI.

Criteria required 20% loss of body height to be classified as a fracture.

Admission drug clerking was reviewed to identify if patients were on a bisphosphonate preceding the NOF fracture.

Results

700 NOF patients identified between date range; 2/6/13-26/5/15.

327 had imaging that incorporated part of the spine (47%). 239 female and 88 male. Average age 82 (22-102).

214 (65%) patients had no spinal fracture demonstrated. 83 (25%) had reported spinal fracture/s. 30 (10%) had unreported spinal fracture/s.

Of the 30 unreported fractures; 26 were in the thoracic spine. 4 in the lumbar spine.

3 were demonstrated on plain radiographs. 27 on CT.

Analysis of pre hospital medication; 26/83 (31%) of reported spinal fractures were on a pre admission bisphosphonate. 1/30 (3%) of unreported fractures was on a bisphosphonate at admission.

Discussion

Local reporting rate of 73% of insufficiency fractures.

Some studies report as low as 10% reporting of these insufficiency fractures. (2)

90% of missed fractures were on standard axial CT.

Sagittal reformats are well recognised to improve identification of fractures. (2)

There was a significantly higher number of patients with reported insufficiency fractures on appropriate treatment, 31% vs 5%.

It is acknowledged that 31% remains low.

Positive reporting initiates treatment in some patients.

It is believed many more form this cohort of patients would benefit from bisphosphonate treatment.

Recommendations

Propose sagittal reformats or thin slices made available in all CT imaging to facilitate fracture identification at local level.

Review and re-audit in 12 months to assess impact.

Further work involving a collaboration of radiologists, geriatricians, bone protection team and pharmacists is required to create a robust pathway to ensure appropriate patients identification and management.

References


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