

Trends In Irish Hip Fracture Surgery Over A 7-Year Period And International Registry Comparison

General Topics / Implants, Biomaterials & Registry Study

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Background

Hip fractures are a significant cause of morbidity and mortality in elderly patients. Timely surgical fixation and early mobilisation are the cornerstone to successful outcomes. The Irish Hip Fracture Database (IHFD) was established in 2012 and publishes annual reports on hip fracture care. Ireland records approximately 3700 hip fractures annually in patients aged over 60 years, which is estimated to cost €45 million in acute hospital care. Due to the aging demographic, the incidence and cost of osteoporotic hip fractures is set to rise substantially in the coming decades.

Objectives

This study aims to review the IHFD reports published over a 7-year period (2013-2019) and analyse the trend in surgical management of hip fractures in Ireland, with a focus on assessing the compliance with National Institute for Health and Care Excellence (NICE) and British Orthopaedic Association (BOA) “Blue book” guidelines. We will also identify other international hip fracture registries and compare their most recent data to the 2019 Irish database.

Study Design & Methods

A comprehensive review and analysis of the IHFD reports between 2013 and 2019 was performed. This paper will examine the trends in surgical fixation by fracture type, adherence to “Blue Book” guidelines and comparison to NICE surgical guidelines.

We identified nine international registries compiled from ten participating countries, each reporting hip fracture data and providing recent detailed reports. The most recent reports from each of these audits were analysed and the data cross-tabulated. This paper will focus on comparing the 2019 IHFD report to the most recent reports from each registry, providing an updated international comparison and examining differences in the approach to surgical fixation.

Results

A total of 21,684 hip fractures were recorded during this period. The majority of patients were female (70.16%), >80 years old (58.26%), admitted from their own home (82.13%) and ASA grade 3 (53%). The majority of undisplaced and displaced intracapsular fractures were treated with hemiarthroplasty, 62% and 88% respectively. There has been a decline in the use of dynamic hip screw (DHS) for intertrochanteric fractures with intramedullary nails being favoured.

To compare international surgical fixation by fracture type, we examined adherence to NICE guidelines. Ireland had the lowest rate of THR for displaced intracapsular fracture (7%), significantly behind Australia (23%), New Zealand (24%), Sweden (24%) and Germany (22%). The UK reports on THR for eligible patients only (27.2%) and is therefore not directly comparable to the above figures, as patients not meeting NICE guidelines are excluded. Ireland has seen a substantial shift away from DHS

for intertrochanteric fractures (32%), but remain ahead of Australia (25%) and Germany (5%).

Conclusions

The proportion of each fracture type has not deviated much during this time-frame, but there are some notable trends in surgical fixation. The rate of THR for displaced intracapsular fractures has increased to 7%, with increasing rates of cementing of arthroplasties. However, this remains lower than other international registries. The use of DHS is steadily declining for intertrochanteric fractures with IM nails being favoured despite their high cost. Further research is needed to identify the reasons for and outcomes associated with this shift in management. Comparison to international hip fracture registries is an important part of this audit process. By comparing the most recent data in each registry it allows us to identify global trends and areas for improvement.