

Outcomes following surgery for fractured neck of femur in dialysis patients: a 5-year review from a District General Hospital in the United Kingdom

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INTRODUCTION

- Patients on dialysis are over four times more likely to develop hip fractures than the general population¹
- Mortality following all fractures is greater in dialysis patients²
- It has also been shown that delay in operating on neck of femur fractures results in increased mortality
- Delays in acute surgery are often a feature in dialysis patients in order to pre-operatively correct fluid overload or hyperkalaemia³
- Logistical issues with fractured neck of femur cases may mean that patients require transfer to a hospital with both inpatient dialysis facilities and an orthopaedic service

METHODS

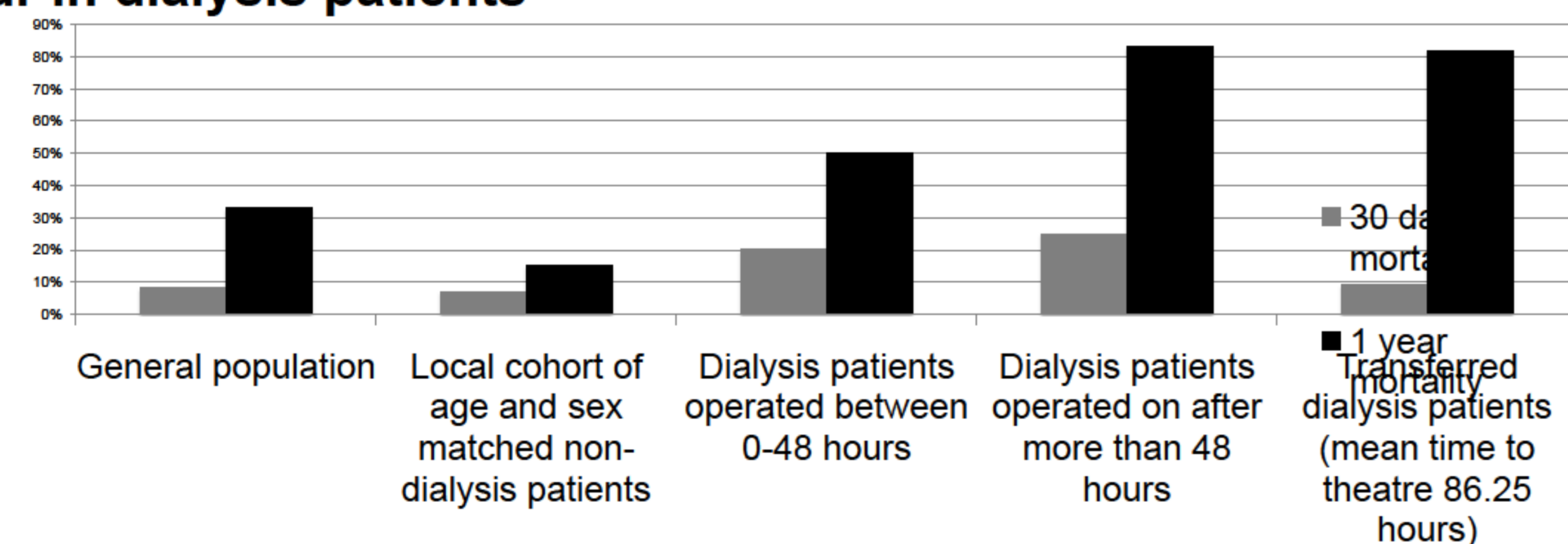
- Operating theatre and trauma admission records for the period January 2009 – January 2014 were retrospectively analysed to identify dialysis patients admitted to Lister Hospital with a fractured neck of femur
- Case notes for patients were obtained from the medical records department and were analysed, along with discharge summaries
- Baseline demographic data was collected along with details relating to transfer from one site to Lister (if applicable)
- Other information obtained included: time from diagnosis in any facility to admission to an acute orthopaedic ward; time from admission to theatre; documented delays to surgery and number of days survived post neck of femur fracture
- Death rates at 30-days and one-year in dialysis patients were established and compared against national figures and a local cohort of age and sex-matched fractured neck of femur patients who did not receive dialysis
- In addition, length of stay in hospital and the proportion of dialysis patients independently mobile at one-year were measured

FIGURES

Figure 1 Time from admission to theatre



Figure 2 30-day and 1-year mortality rates post fractured neck of femur in dialysis patients



RESULTS

- 27 dialysis patients (all receiving haemodialysis) were admitted with a fractured neck of femur during the study period. 67% (18 out of 27) patients were male
- Average patient age was 75.2 years (range 39-93)
- 33% patients were admitted to an orthopaedic ward within 4 hours of presentation (national average 50%)
- Average time from admission at the satellite hospital to transfer for this group of patients was 35 hours
- Average time from admission at the satellite hospital to operation for this group was 86.3 hours (compared to 71.1 hours for the group overall)
- All of the patients transferred from a satellite hospital were operated on more than 48 hours after admission
- Average length of survival in this cohort was 311 days
- Average length of survival if the operation occurred within 48 hours of admission was 450 days (192-708 days, 95% CI) and 224 days (45-402 days, 95% CI) if after more than 48 hours of admission (p 0.16)
- Average length of stay in hospital was 33 days, compared to 20 days nationally
- 11% patients were independently mobile at one year

CONCLUSIONS

- In this cohort, dialysis patients with fractured neck of femur experience significant delays in receiving an operation
- Our cohort had an increased mortality post-surgery. Reasons included delay in transfer to a centre with both inpatient renal support and orthopaedic services; exaggerated metabolic and haemodynamic compromise post fall and fracture; and significantly worse baseline functional capacity compromising recovery
- Formulation of a specialised pathway for dialysis patients with fractured neck of femur at satellite dialysis units is required to help minimise delays in transferring patients to a hospital with both a fractured neck of femur repair service and inpatient dialysis facilities. We hope this will help to improve mortality

REFERENCES

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