Cost comparison in hip fracture treatment

Karl-Göran Thorngren

A residency analysis of 3,053 patients treated for cervical hip fractures either at surgical or orthopedic departments was made.

Accumulated costs during and after treatment at surgical departments were almost twice as high as those accrued after treatment in orthopedic units.

Department of Orthopedics, University Hospital, S-221 85 Lund, Sweden

As the number of hip fractures increase, the impact on the health care system also increases. At most departments in Sweden, the hip fracture patients now occupy more than one fourth of the bed resources. The principles of treatment vary in different hospitals. Analysis of the patient's residency before and after the fracture provides important information on the function achieved. Residency analysis has proven to be a valuable instrument for assessing different treatment regimes, for it reflects both operative results and achievements of rehabilitation. By comparing data from Stockholm and Lund, the effects of different treatment strategies on resource consumption will be exemplified.

Figure 1 shows the residency of 3,053 patients with a cervical hip fracture in Stockholm 1975–1977 followed up for 6 years. It is evident that the patients were predominantly sent to geriatric hospitals for rehabilitation instead of receiving direct rehabilitation in their own homes.

There were differences in treatment routines between orthopedic and general surgical units (Figure 2). The average stay in the hospital was longer and the number of referrals to geriatric hospitals was more common for patients treated at general surgical departments (1). Further, at surgical departments the operative techniques were less uniform, the operations were performed by less trained surgeons, and the rehabilitative activities were initiated later than at orthopedic departments. The total cost for primary operations and reoperations was calculated separately for both the acute and the geriatric hospitals (2).

Patients with delayed healing or surgical complications consumed 3–4 times more bed days than those with uncomplicated healing. On an average, the cost for an uncomplicated hip fracture was 43,000 SEK at an orthopedic department and 68,000 SEK at a surgical department. When the fractures developed healing complications, the costs more than tripled to 137,000 and 220,000 SEK at orthopedic and surgical departments, respectively. On an average, fractures treated at surgical departments were almost twice as expensive (115,000 SEK) as those treated at orthopedic departments (68,000 SEK).

An active rehabilitation program considerably influences the results. This is exemplified in Figure 3, depicting the residency pattern after cervical hip fractures in Lund in 1981 and 1982. The majority of the patients returned within 2 months to their prefracture residency without the use of rehabilitation facilities at geriatric hospitals; and 2 months after the fracture, 80 percent of the patients were back in their own homes.

The difference in results has great economic consequences, exemplified in this study by a saving of 36,000 SEK per patient in treatment expenditures during the first 4 months of treatment by treating hip

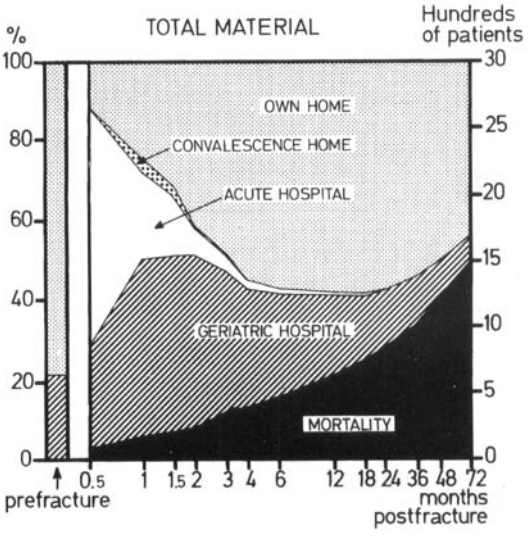

Figure 1. Residency during different periods (logarithmic scale) after a cervical hip fracture in 3,053 consecutive patients in Stockholm 1975–1977.

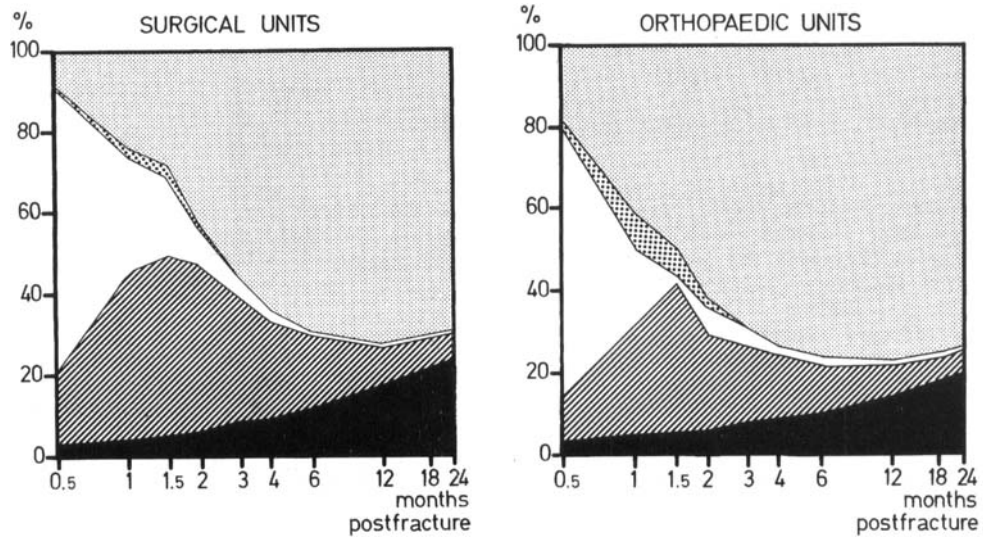

Figure 2. Residency of cervical hip fracture patients admitted from their own homes to orthopedic or surgical units.

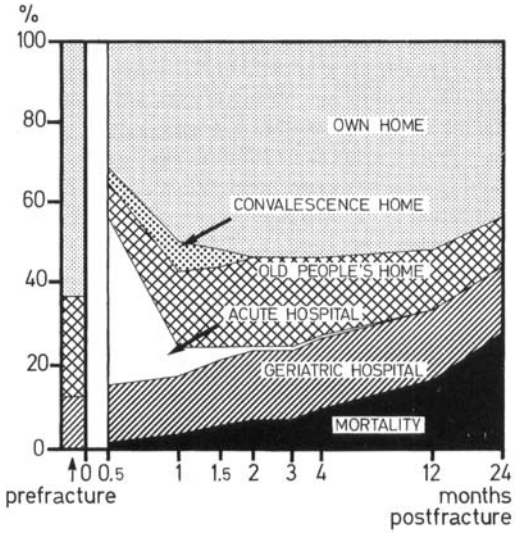

Figure 3. Residency of all cervical hip fracture patients treated in Lund in 1981 and 1982.

fracture patients at orthopedic units. Thus, the calculated annual saving in treatment costs for these fractures would (applied in the Stockholm area to the 1,000 cervical hip fracture patients annually) amount to 36 million SEK during the first 4 months after fracture.

Through intensified interest in the problems related to hip fracture patients, aiming at both meticulous surgical technique and intense rehabilitation, orthopedic departments in the future may be able to meet the expected wave of hip fracture patients without increasing the number of hospital beds.

References

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2. Holmberg S, Thorngren K-G. Consumption of hospital resources for femoral neck fracture. *Acta Orthop Scand* 1988; 59(4): 377–81.