



Introduction

The specialty of emergency medicine (EM) was established in Finland in 2013. We wanted to investigate how the integration of EM has affected time intervals concerning the management of acute ischemic stroke (AIS). The background for our study is the reorganisation of AIS protocol where we achieved marked reduction in the door-to-needle-time to the start of intravenous thrombolysis. However, it is not known, whether this ultrafast protocol also mirrors to the process' performance for all AIS patients.

Methods

Performance benchmarking is the merging of two methodologies, benchmarking and performance management. It is a process in which an impartial analyst evaluates various aspects of organizations' processes in relation to the industry's best practices and performance measures.

In this retrospective study, we analysed how different central hospitals with similar populations met certain goals concerning AIS management. The data was recovered from a database provided by Nordic Healthcare Group Ltd. We selected seven Finnish secondary care hospitals and formed two groups, the first containing of two hospitals where the AIS management is mostly done by emergency medicine specialists and residents (Group 1) and a reference group where decision of AIS management is done by a neurologist possibly via a telestroke consultation (Group 2). Statistical analyses were made by calculating median success (in per cents) to achieve a pre-specified time interval. Then the dichotomous values of success/delay between the groups were compared by using the chi-squared test. P-value < 0.05 was considered significant.

Results

The mean population catchment was 213 216 (173 781 and 252 651) for group 1 and 177 305 (130 506 – 221 740) for group 2. Mean number of acute ischemic stroke patients per year was 436 (316 – 555) and 364 (250 – 515) in groups 1 and 2, respectively.

AIS patients were met by doctor within one hour in 81.5% vs. 67.5% in Groups 1 and 2, respectively (p<0.05).

Discussion

We found that AIS protocol driven by emergency medicine specialists and residents may precipitate overall stroke patient management within the ED. However the data was recovered from a large database where the delays are recorded based on the different entries made by doctors and nurses during the stay in the ED. These entries may not be accurate for they can be made during any part of the diagnostic and treatment process depending on the doctor or nurse. More studies are needed about AIS management in secondary care hospitals with more uniform registration policies.

Conclusions

We found, that in the EDs with an emergency physician organized stroke protocol, patients were seen more often by the physician in one hour than in hospitals with a neurologist based protocol.