



Overføring av BEST-erfaringer fra traumeteam til medisinske akutt-team

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25000 pas til akk/år

Ca 900 teamalarmer /år



Bakgrunn for etablering av medisinsk/nevrologisk team i SSK

Erfaringer med traumeteam i 4 år ; *fast prosedyre med tiltakskort for teammedlemmers funksjon og rolle. Systematisk uv/trening og registrering*

Dokumentert effekt av undervisning og simulator trening av traumeteam;



Erkjennelse høsten 2005

Behov for systematisk metode for mottak av kritisk syke medisinske og nevrologiske pasienter (de ustabile pasientene)

 ***kvalitetsforbedring; økt pasientsikkerhet***



Antall hendelser ? (2005 tall)

Traumeteam: Ca 250 alarmer per år

Barneteam: 30 – 45 alarmer per år

Hjertestans: 35 – 40 til Akm120 pr år (totalt 120 i SSK)

Antall akutte medisinske og nevrologiske ustabile pasienter anslått til ca 400 - 450 per år

Opprettelse av Medisinsk-/nevrologisk team SSK

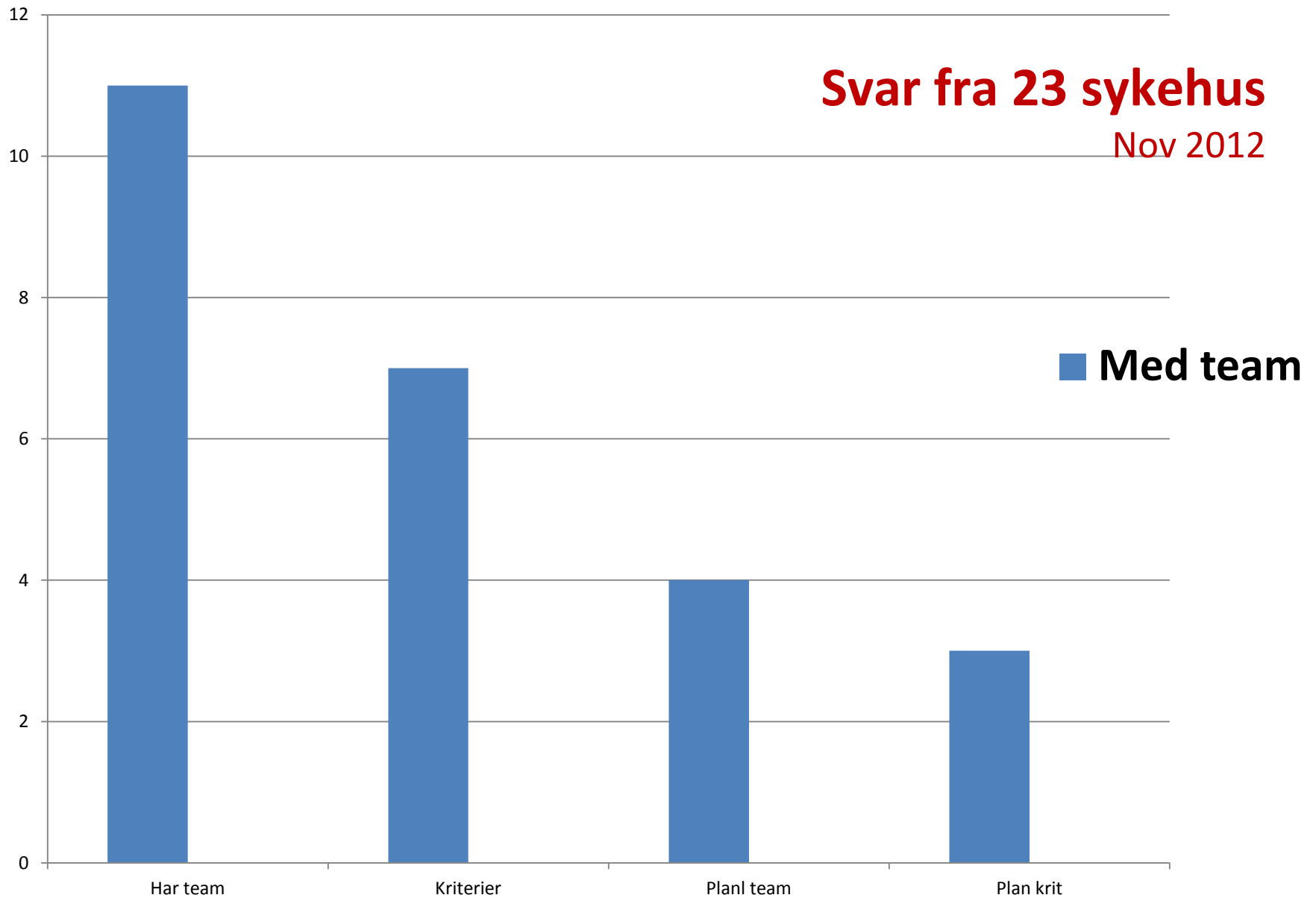
- Prosedyre med kriterier utarbeidet høsten 2005
- Informasjonsmøter med impliserte avdelinger og briefing av teamet desember 2005/januar 2006
- Oppstart alarmering av Med-/nevr team jan 2006

Prosedyre og kriterier lagt ut på BESTnet hjemmeside høsten 2006

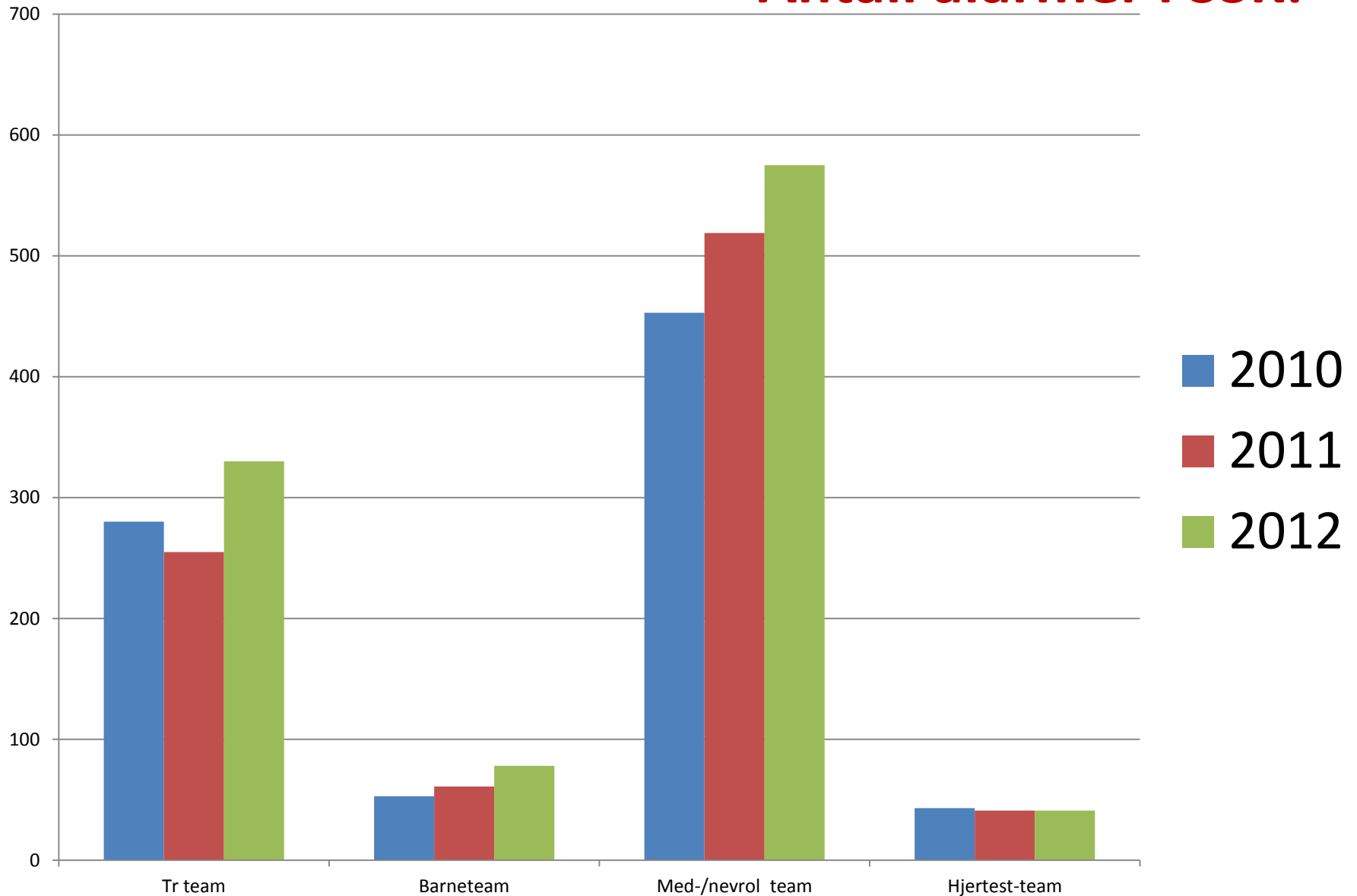
Nevrologisk avd har fulgt utvikling/effekt vitenskapelig i f t slagpasienter siden oppstarten.

Svar fra 23 sykehus

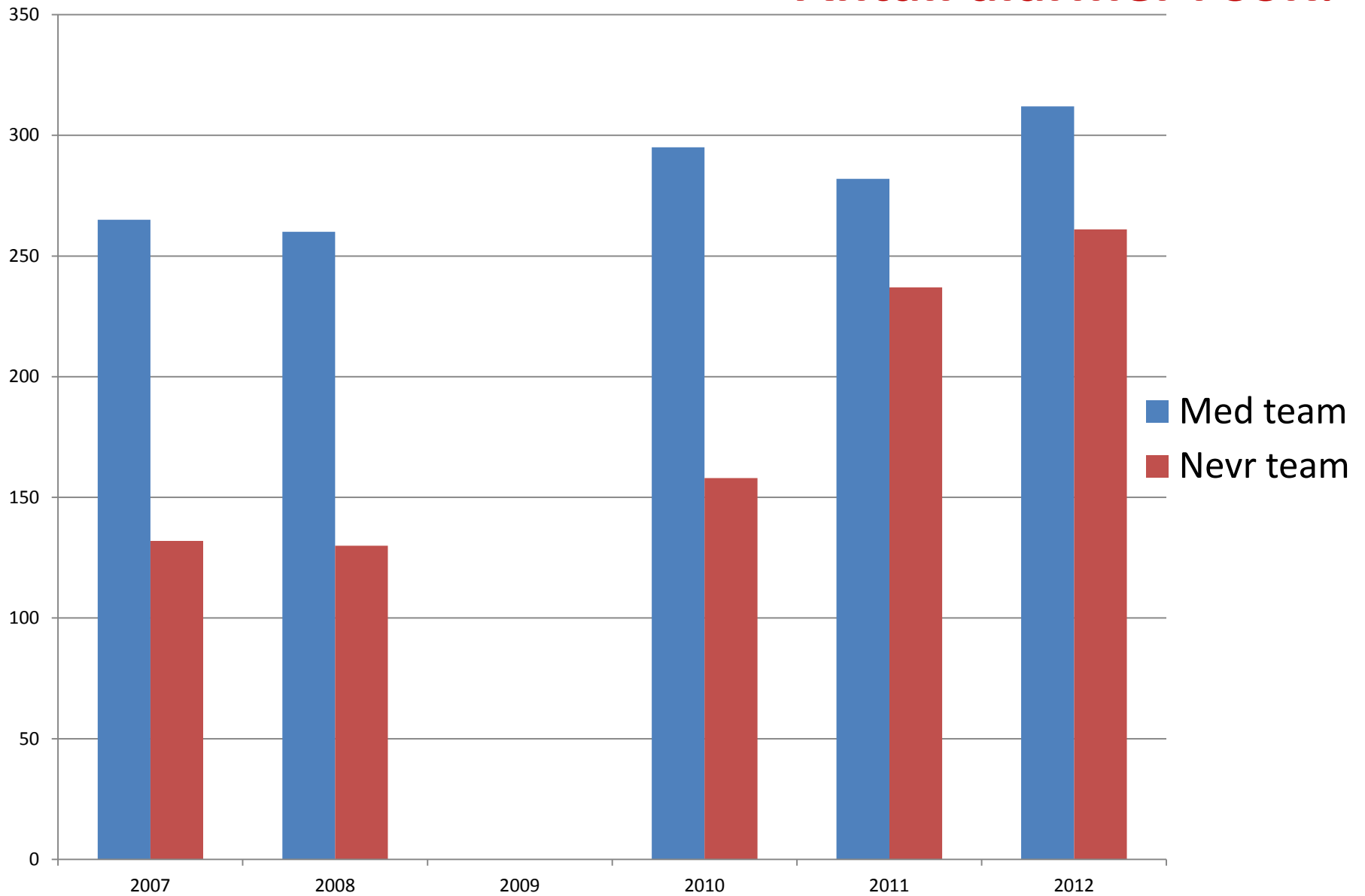
Nov 2012



Antall alarmer i SSK:



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Pasienter med hjerneslag:

Ca 400 pas meldt som hjerneslag pr/år til vårt sykehus

- ✓ Ca 130 "teamalarmer" per år nevrologiske pas.
- ✓ Ca 50 trombolysebeh/år ; < 4,5 timer sykehistorie
- ✓ Tidsbruk DTN "***ankomst til oppstart trombolyse***"
redusert med teamorganisering; median tid 26 min til
trombolyse er gitt (*Registr i 2009*)

Effekter av Team- organisering :

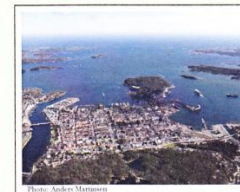
Hjerneslag

Intravenous Thrombolysis for Ischemic Stroke: Increased use and shortened delays through simple organisational changes

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Context

- An improvement program for rapid stroke thrombolysis
- A general hospital serving 160.000 inhabitants.
- Involved the department of neurology, the department of radiology, the emergency room and the emergency medical services (EMS).



Kristiansand with 80.000 inhabitants lies in Vest-Agder, the southernmost county in Norway. Sørlandet Hospital Kristiansand has a general catchment of 160.000 inhabitants. Due to the 24/7 neurological service we currently admit patients with acute stroke from an extended catchment of 245.000 during night hours.

Problem

- Intravenous thrombolysis with tissue Plasminogen Activator (tPA) for acute ischemic stroke is highly effective, but grossly underused
- In 2005 the rate of treatments in our hospital was still low and the average door to needle time was 60 minutes.
- We aimed at improving the availability of thrombolytic treatment and reducing the delays.

Strategy for change

Organizational changes in 2006:

- A flow chart for the emergency medical services (EMS)
- Prenotification
- A team response in the emergency room (ER).
 - neurologist present in the ER at patient's arrival
 - CT machine ready
 - blood drawn immediately
- Treatment moved to the ER

Measurement of improvement

- The improvement program was published in 2009. 1
- Delays before and after the organizational were analyzed in a prospective treatment database.
- In a community-based study of all hospitalizations for ischemic stroke during six months in 2007 we analysed:
 - proportion of patients admitted in the 0-3 hour time window
 - proportion receiving thrombolytic treatment.

Effects of changes

- The number of treatments increased four-fold
- A significant reduction in mean door to needle time (DNT) from 60 to 38 minutes ($p=0,002$).
- 10% of all patients hospitalized with ischemic stroke and 41% of those admitted in the 0-3 hour window were treated.
- The treatment rates and delays are comparable with reported results from leading large centres. 2, 3

Lessons learnt

- An inexperienced stroke centre can rapidly implement the necessary logistics to deliver thrombolysis to a large proportion of acute stroke patients with short hospital delays.
- Important factors in our system :
 - prenotification
 - team response
 - treatment in the ER

Message for change

- A simple practical improvement program can increase the use of thrombolytic treatment in acute ischemic stroke and shorten the delays.
- We encourage all hospitals treating patients with acute stroke to evaluate the alert system and the initial hospital assessment of the patients.

Most recent update

- In 2009 treatment start was moved to the CT lab.
- The ER team follows the patient and starts treatment.
- 48 patients were treated with a median door to needle time of 26 minutes.
- Currently approximately 15% of all patients admitted with ischemic stroke are treated.
- The rate of symptomatic intracerebral haemorrhage from 2003 to Des. 31.2009 has been 4/167 (2,4%).

Reference list

- (1) Tveiten A, Mygland A, Ljøstad U, Thomassen L. Intravenous thrombolysis for ischemic stroke: short delays and high community-based treatment rates after organisational changes in a previously inexperienced centre. *Emerg Med J* 2009 May;26(5):324-6.
- (2) Lindberg PJ, Hoppola O, Kallala M, Valanne J, Kuusima M, Kaste M. Door to thrombolysis: ER reorganization and reduced delays to acute stroke treatment. *Neurology* 2006 July 25;67(2):334-6.
- (3) Grotta JC, Burgin WS, El-Mitwalli A, Long M, Campbell M, Morgan J, et al. Intravenous tissue-type plasminogen activator therapy for ischemic stroke: Houston experience 1996 to 2000. *Arch Neurol* 2001 December;58(12):2009-13.

Key publications:

Tveiten A, Mygland A, Ljøstad U, Thomassen L. Intravenous thrombolysis for ischemic stroke. Short delays and high community-based treatment rates after organisational changes in a previously inexperienced centre. ***Emerg Med J*** 2009; 26 (5):324-6 PMID: 19386862

Takk for oppmerksomheten !

