ISRCTN35424832 https://doi.org/10.1186/ISRCTN35424832

Impact of replacing conventional emergency department diagnostic procedures by a single-pass whole body computed tomography (pan-scan) on the survival of patients with severe trauma

Submission date
14/07/2011

Recruitment status
No longer recruiting

Registration date
24/08/2011

Overall study status
Completed

Last Edited
19/04/2017

Condition category
Injury, Occupational Diseases, Poisoning

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Despite major improvements in emergency care, severe trauma, mainly due to road traffic crashes, falls, and assaults remains the leading cause of death in the industrialized countries. The rapid transfer of trauma victims to a specialized trauma centre is life-saving. On admission, the goal of diagnostic work-up is to identify life-threatening injuries, immediately followed by surgical and intensive care. The current diagnostic standard includes different imaging procedures like ultrasound, x-rays, and a cranial (head) computed tomography (CT) scan supplemented by CT scans of individual body regions as needed. In many trauma centres worldwide, this often time-consuming approach has now been replaced by a whole-body CT-scan, called the "pan-scan" for trauma. In theory, the pan-scan may detect injuries earlier and more precisely than the traditional stepwise procedure. Although compelling and plausible, there is a lack of evidence of whether the pan-scan benefits patients in terms of improved survival. The potential advantages of the pan-scan must also be traded-off against the increased exposure to radiation. The aim of this study is to find out whether the introduction of pan-scan into trauma resuscitation decreases mortality (death rate) for patients after severe blunt trauma compared to a conventional, staged work-up.

Who can participate?
Patients with suspected blunt multiple trauma requiring resuscitation in the emergency department/trauma bay

What does the study involve?
The outcomes of patients admitted before and after the introduction of pan-scan for severe trauma are compared. Mortality (death rate), adjusted for injury severity and other factors, morbidity (i.e. inflammatory complications like lung failure and multiple organ failure), and emergency department time are assessed.

What are the possible benefits and risks of participating?
Not provided at time of registration

Where is the study run from?
The University Trauma Centres in Murnau and Greifswald (Germany)

When is the study starting and how long is it expected to run for?
July to October 2011

Who is funding the study?
Investigator initiated and funded (Germany)

Who is the main contact?
Dr Dirk Stengel
zkf@ukb.de

Contact information

Type(s)
Scientific

Contact name
Dr Dirk Stengel

Contact details
Emergency Hospital Berlin (Unfallkrankenhaus Berlin)
Warener Str. 7
Berlin
Germany
12683
+49 (0)30 5681 4090
zkf@ukb.de

Additional identifiers

Protocol serial number
ukb_PATRES_3.2_0711

Study information

Scientific Title
Effectiveness of primary whole-body computed tomography (pan-scan) in improving process and outcome quality after severe and multiple trauma (The Pan-scan for Trauma Resuscitation Study, Part 3)

Acronym
PATRES-3

Study objectives

The introduction of a single-pass whole-body, contrast-enhanced computed tomography (Pan-Scan) into trauma resuscitation decreases all-cause in hospital mortality of patients after severe blunt trauma compared to a conventional, staged work-up algorithm

Ethics approval required
Old ethics approval format

Ethics approval(s)
Bavarian Chamber of Physicians (Bayerische Landesärztekammer), 16/03/2010

Study design
Retrospective cohort study

Primary study design
Observational

Study type(s)
Diagnostic

Health condition(s) or problem(s) studied
Multiple and severe blunt trauma

Interventions
1. Control cohort: Trauma resuscitation and staged diagnostic work-up according to Advanced Trauma Life Support (ATLS(R)) standards including physical examination (ABCDE-algorithm), focused assessment with sonography for trauma (FAST, including thoracic views), plain x-rays of the chest, pelvis, and spine, cranial CT, followed by selective CT-scans of suspicious body regions
2. Intervention cohort: Trauma resuscitation and staged diagnostic work-up according to Advanced Trauma Life Support (ATLS(R)) standards, primary single-pass pan-scan

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
All-cause in-hospital mortality

Key secondary outcome(s))
1. All-cause in-hospital mortality, adjusted for injury severity and other confounding / interaction variables identified by multivariable logistic regression analysis
2. Morbidity (i.e. inflammatory complications like lung failure [ARDS] multiple organ failure [MOF])
3. Emergency department time

Completion date
01/10/2011

Eligibility

Key inclusion criteria
Consecutive men and women (no age restrictions) with suspected blunt multiple trauma directly transferred from the scene to the hospital and requiring resuscitation in the emergency department / trauma bay

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Key exclusion criteria
Due to the retrospective nature of this analysis only patients with insufficient or lacking information in the hospital documentation system will be excluded from the analysis

Date of first enrolment
15/07/2011

Date of final enrolment
01/10/2011

Locations

Countries of recruitment
Germany

Study participating centre
Emergency Hospital Berlin (Unfallkrankenhaus Berlin)
Berlin
Germany
12683

Sponsor information

Organisation
Emergency Hospital Berlin (Unfallkrankenhaus Berlin) (Germany)

ROR
https://ror.org/011zjcv36

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Investigator initiated and funded (Germany)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	09/12/2011		Yes	No