

Conventional chest radiography in the Trauma Bay at Sahlgrenska University Hospital

Christoffer Örténwall¹, Ragnar Ang¹, Åse A Johnsson¹

¹ Sahlgrenska Universitetssjukhus

Aim: To evaluate the use of anteroposterior (AP) conventional chest radiography (CXR) for detection of pneumo- and hemothoraces in the trauma bay at Sahlgrenska University Hospital (SU/S).

Methods: An expert thoracic radiologist evaluated the quality of all AP CXRs taken at the trauma bay at SU/S between 2016 and 2018. Findings on AP CXR were compared to findings on computed tomography (CT) performed on the same day as the CXRs. Additionally, all tube thoracostomies placed during the same period were investigated. Finally, a survey was performed, where surgeons (n=5) and another expert thoracic radiologist (n=1) assessed a selection of the CXR examinations (n=20), with different levels of quality and pathology in order to investigate the detection rate regarding pneumo- and/or hemothoraces,

Results: A total of 77 CXR examinations were obtained in the trauma bay at SU/S including the years from 2016 to 2018. The CXR examinations had one or more remarks regarding image quality for 74% of the cases. CT was performed in 69 of the patients and comparison between the findings on the AP CXR examinations and the following trauma CT revealed a sensitivity of 50% regarding pneumo- and/or hemothoraces of clinical relevance for AP CXR examinations. Based on CXR findings a chest drain was placed in 10 patients. The survey of the 20 cases showed that surgeons and the expert radiologist correctly assessed the presence of pneumothorax and/or pleural fluid in 66% and 90% respectively.

Conclusions: The findings in this study suggest that the value of current routines with AP CXR in the trauma bay is of limited value.