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Structured Reporting of Acute Ischemic Stroke – Consensus-Based Reporting Templates for Non-Contrast Cranial Computed Tomography, CT Angiography, and CT Perfusion

Strukturierte Befundung beim ischämischen Schlaganfall: Konsensbasierte Befundvorlagen für die native Computertomografie, CT-Angiografie und CT-Perfusion des Neurokraniums

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Key words

structured reporting, ischemic stroke, computed tomography

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ABSTRACT

Purpose Structured reporting is an essential step in establishing standardized quality standards in diagnostic radiology. The German Society of Radiology and the German Society of Neuroradiology aim to provide templates for the structured reporting of different radiological examinations.

Method The Information Technology working group of the German Society of Radiology developed structured templates for the radiological reporting of different indications in consensus with specialist support by experts.

Results We present a template for the structured reporting of examinations of patients with acute ischemic stroke by non-contrast computed tomography, CT angiography, and CT perfusion. This template is provided on the website www.befundung.drg.de for free use.

Conclusion Implementation of the structured template may increase quality and provide a minimum standard for radiological reports in patients with acute ischemic stroke.

Key Points:

- The German Society of Radiology and the German Society of Neuroradiology are providing support for the development of structured templates in German.
- We present a template for the structured reporting of examinations of patients with acute ischemic stroke by non-contrast computed tomography, CT angiography, and CT perfusion. This template is provided on the website www.befundung.drg.de for free use.
- Implementation of the structured template may increase quality and provide a minimum standard for radiological reports in patients with acute ischemic stroke.

ZUSAMMENFASSUNG

Hintergrund Die strukturierte Befundung ist ein wichtiger Bestandteil zur Verbesserung des Qualitätsstandards in der

Structured reporting is an essential step in establishing quality standards in diagnostic radiology. This type of reporting uses standardized templates tailored to specific medical issues. It differs from the free-form texts that are currently most commonly used for reporting in the clinical routine.

Structured reporting provides a greater degree of completeness and thus better report quality [1–5]. According to multiple studies, most clinical referring physicians prefer structured reporting to free-form texts [6–8]. The primary goal of a structured reporting template is to provide a high-quality radiology report for a specific radiological examination in accordance with the current state of knowledge. Structured reporting templates are typically created in consensus with specialist support provided by radiology and clinical experts.

Structured reporting complements imaging schemes that are already established in the determination of the further clinical approach, such as the *Alberta Stroke Program Early Computed Tomography (CT) Score (ASPECTS)*, which is used in neuroradiology for stroke treatment, or the *Response Assessment in Neuro-Oncology (RANO)* criteria, which are used for evaluating the treatment of brain tumors [9, 10]. They are an important component of evidence-based medicine, which requires guideline-based diagnostic workup and treatment, standardized clinical workflows, and quality assurance. Structured reporting also facilitates scientific and computer-based further usage of radiology data [1, 11].

According to a number of large radiology societies, the improvement of report quality by using structured reporting is a high priority [11, 12]. Consequently, the Radiological Society of North America (RSNA) created the Radlex, a lexicon of standard

radiologischen Diagnostik. Die Deutsche Röntgengesellschaft und die Deutsche Gesellschaft für Neuroradiologie sind bestrebt, der Fachöffentlichkeit standardisierte Befundvorlagen für spezifische Fragestellungen zur Verfügung zu stellen.

Methode Die AG Informationstechnologie der Deutschen Röntgengesellschaft hat in Zusammenarbeit mit fachspezifischen Experten im Konsensverfahren Befundvorlagen für verschiedene radiologische Fragestellungen erarbeitet.

Ergebnisse Die hier vorgestellte strukturierte Befundvorlage zur computertomografischen Akutdiagnostik des ischämischen Schlaganfalls mittels nativer Computertomografie (CT), CT-Angiografie und CT-Perfusion wird online unter www.befundung.drg.de in einer frei zugänglichen Datenbank zur Verfügung gestellt und kann über strukturierte-befundung@drg.de bzw. https://github.com/DRGagit/ak_befundung kommentiert werden.

Schlussfolgerung Der Einsatz der strukturierten Befundvorlage soll einen Beitrag zur Steigerung der Qualität radiologischer Befunde und die Einhaltung eines Mindeststandards bei der Akutdiagnostik des Schlaganfalls leisten.

radiology terminology that is now also available in German at <https://www.drg.de/de-DE/4291/radlex-deutsch/> [13]. Moreover, the RSNA and the European Society of Radiology (ESR) created the free platform www.radreport.org, which provides standardized reporting templates for various radiological examinations in HTML-5 or IHE-MRRT format.

The German Society of Radiology and the German Society of Neuroradiology are providing support for the development of structured templates in German. In collaboration with the various working groups of the German Society of Radiology and the German Society of Neuroradiology, the Information Technology working group (@GIT) is creating, validating, and certifying specialty- and case-specific templates in consensus. The structured reporting template presented here for examinations of patients with acute ischemic stroke by non-contrast computed tomography, CT angiography, and CT perfusion is provided online at www.befundung.drg.de in a free database and comments can be added at strukturierte-befundung@drg.de or https://github.com/DRGagit/ak_befundung.

Conflict of Interest

Thomas Huber ist neben seiner im Manuskript genannten Affiliation bei der Firma Smart Reporting GmbH beschäftigt. Ansonsten bestehen keine wirtschaftlichen oder persönlichen Verbindungen im o.g. Sinne.

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