The Use Of Accipio Ax Could Have Helped Avoid the Errant Administration of tPA. A Case Study.

Correctly identifying suspected intracranial hemorrhage (ICH) could help prevent the in-error administration of tPA to a stroke patient. Assistance in ICH identification for stroke treatment care can make a difference. This case study outlines the impact of utilizing AI solutions to empower the physician's treatment decision.

Introduction

During the evaluation of the MaxQ AI ACCIPIO ICH and Stroke Platform for use with stroke patients, the lead stroke neurologist at a major US acute facility considered a recent patient case where Accipio Ax could play a key role in intracranial hemorrhage (ICH) identification; helping avoid the possible misdiagnose of missed ICH in a non-contrast head CT. With ACCIPIO'S findings empowering ICH identification, the potential to prevent the errant administration of tPA to a stroke patient exists. MaxQ AI's Accipio Ax—providing automatic, rapid, highly-accurate slice-level annotation and prioritization of ICH—can support the skilled physician in real-time. Accipio Ax is part of the comprehensive, seamless, and secure ACCIPIO Platform, comprised of Accipio Ix, Accipio Ax, and Accipio Dxg.

A Stroke Case Where ACCIPIO Could Help

Consider this patient case: A patient suddenly developed difficulty speaking and began experiencing left-sided weakness. His family rushed him to a hospital. Upon his arrival at the Emergency Department, the stroke team evaluated him and determined that he was having a stroke. They ordered an expedited non-contrast CT, which was interpreted as negative for ICH at the scanner console. The administration of emergent therapy (IV tPA) was started. Per protocol, the scan was immediately re-

read retrospectively by another radiologist, who determined the patient did have a small, subtle subdural hemorrhage that had been missed. tPA was immediately stopped and pharmacologically reversed. The combined efforts of the stroke team prevented an adverse event.

20% — ICH accounts for approximately 20% of all strokes and presents in up to 30% of all head injuries*

About MaxQ AI®

MaxQ AI is at the forefront of medical diagnostic artificial intelligence (AI). Our mission is to reinvent patient diagnosis through artificial intelligence (AI), improved triaging and diagnostics processes, and reduction of avoidable medical errors and costs. MaxQ AI's solutions are seamlessly integrated and globally deployed through trusted global healthcare OEM partners, cyber-secure with leading 3rd party validated certification. At MaxQ AI, we have developed a comprehensive workflow software platform, ACCIPIO (meaning "to learn" in Latin), that uses artificial intelligence to interpret medical images, such as non-contrast head computed tomography (CT) scans and surrounding patient data. Our platform will provide real-time triage, rule out, annotation, quantification, and notification in the acute care setting, where every minute counts. Our AI solutions are well-suited to help acute care physicians, who are under extreme pressure to make quick and accurate decisions while treating a large number of patients, reach faster, more accurate decisions when diagnosing stroke, head trauma, and other life-threatening conditions.

The ACCIPIO Platform

Accipio Ix™
  Provides automatic, rapid, highly accurate identification and prioritization.

Accipio Ax™
  Provides automatic, rapid, highly accurate slice-level annotation and prioritization.

Accipio Dxg™
  Automatic, Rapid, Highly accurate triage for suspected ICH presence or High NPV absence.

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To learn more, visit www.maxq.ai or follow us on LinkedIn.

Schedule a demo at maxq.ai/schedule demo/

The Solution

This use case, where a patient is initially diagnosed as negative for ICH and is given tPA therapy, this could lead to potentially serious consequences. MaxQ AI's Accipio Ax, empowering the physician interpretation, could be used in real-time to provide identification of ICH in seconds.

"MaxQ AI's ACCIPIO platform would have been an important addition to determining the treatment path of this patient had it been available at that time," stated the physician. "**Seamless integration is key as physicians need to be able to view the images in many places, such as on the CT scanner, on the PACS at a radiologist's location, or by a tele-neuroradiologist who is at home looking at the images on their device. MaxQ AI's seamless integration and secure workflow allows a multi-faceted approach to the patient's stroke care and is a welcomed workflow assistant."*** MaxQ AI is ushering in empowered care—the dawn of partnership between AI and the skilled care provider—to extend expertise to every patient and care-provider.

> "Normally about 6-8% of patients receive tPA in the US who are tPA-eligible, but in my facility, we are able to get about 24% of our stroke patients tPA, and that's because of the technology that we've been able to bring in."
>
> **Neuroradiologist**

The physician concluded that the ACCIPIO solution could have helped identify the ICH in seconds and possibly prevent the errant administration of tPA.

Conclusion

This physician and MaxQ AI used this case study to demonstrate an all-to-common event, a missed ICH, and how the MaxQ AI ACCIPIO solution could have helped accurately identify the ICH in seconds, leading to a possible better treatment path. It is MaxQ AI's mission is to reinvent patient diagnosis through artificial intelligence (AI), improved triaging and diagnostics processes, and reduction of avoidable medical errors and costs—all leading to better patient outcomes.

COMPREHENSIVE • SEAMLESS • SECURE

What if Accipio Ax was assisting the physician in real-time?

Without ACCIPIO | With ACCIPIO

8:30 am

A male suddenly had difficulty speaking and began experiencing left-side weakness. Family rushed him to hospital.

9:30 am

The patient arrived in ED and Stroke Team evaluated him and determined he was having a stroke.

10:00 am

Patient given a non-contrast head CT.

10:00 am — BLEED DISCOVERED

Accipio Ax™

Slice-Level Annotation

Accipio analyzed the images and identified them as suspicious for ICH. Case moved to top of stack for Radiologist overread.

10:15 am

Scan interpreted as negative for ICH, and **team immediately started emergent therapy (IV tPA).**

10:16 am

Scan over read by second radiologist (per protocol).

Nearly 16 Minutes Later

BLEED DISCOVERED

Patient's scan re-read by lead radiologist and a radiology colleague, who determined the patient did have an ICH.

Stroke team rapidly reversed tPA.

Errant tPA administration avoided.

maxQ®
Artificial Intelligence