

Global Study Uncovers Diagnostic Challenges in Aortic Regurgitation Assessment

Led by Dr. Christina Binder and Prof. Dr. Thomas Binder, with Support from 123sonography

Vienna, Austria – A groundbreaking international study has revealed widespread inconsistencies in the clinical assessment of aortic regurgitation (AR) – a complex and often misjudged heart valve condition. The research, published in *European Heart Journal – Imaging Methods and Practice*, was spearheaded by **Dr. Christina Binder**, cardiologist and cardiovascular imaging expert, in collaboration with **Prof. Dr. Thomas Binder**, Chief Medical Officer at 123sonography and senior faculty at the **Medical University of Vienna**.

The study surveyed over **1,000 physicians and sonographers in 104 countries**, uncovering a significant gap between clinical guidelines and real-world practice. While current standards recommend a comprehensive, multi-parametric approach, most clinicians continue to rely on simplified visual assessments. Advanced quantitative methods, such as PISA and EROA, remain underutilized.

“Our findings show that aortic regurgitation is still one of the most challenging valvular lesions to quantify,” said **Prof. Dr. Thomas Binder**. Even experienced clinicians vary in their assessments -and don't always use all the criteria for quantification outlined in the Guidelines. This has real consequences for patient care and decision-making.”

The study also explored the potential role of artificial intelligence (AI) in diagnostic support. Clinicians expressed high levels of trust in **validated AI tools**, but remain cautious toward unproven models. This suggests a pathway forward: combining technology with targeted education to improve consistency in AR evaluation.

The survey was distributed from [123sonography.com](https://www.123sonography.com), the world's leading platform for online ultrasound education, which played a key role in engaging a global network of medical professionals. Founded by Prof. Dr. Binder, 123sonography reaches over 500,000 users worldwide and is actively involved in improving imaging education through digital innovation.

“This study is more than data – it's a call to action,” said **Dr. Christina Binder**, who led the research. “To ensure accurate diagnosis and better outcomes, we need practical, globally applicable education – and tools clinicians can trust.”

The full paper, [“Seeing through the leak: A global perspective on aortic regurgitation assessment,”](#) is available open-access.

Learn more about echocardiography education at 123sonography.com.