

# 磁共振ESWAN成像技术进展及其临床应用

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**Title:** Progress and clinical application of magnetic resonance ESWAN imaging technique

**作者:** 白小曦; 张立欧; 黄丽萍

中国医科大学附属盛京医院, 辽宁 沈阳 110004

**Author(s):** Bai Xiaoxi; Zhang Liou; Huang Liping

Shengjing Hospital of China Medical University, Liaoning Shenyang 110004, China.

**关键词:** 磁共振成像; 磁敏感加权成像; 三维增强梯度回波T2\*加权血管成像序列; 乏氧

**Keywords:** magnetic resonance imaging; susceptibility weighted imaging; enhanced gradient echo T2-star weighted angiography; hypoxic

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**摘要:** 近年来, 三维增强梯度回波T2\*加权血管成像序列 (enhanced gradient echo T2-star weighted angiography, ESWAN) 作为一种新兴的多模态磁共振成像技术在临床中逐步被应用。其通过多回波采集方式, 在一次扫描中可获得多个定量成像参数。由于疾病组织内导致磁敏感的顺磁性物质改变, 通过ESWAN序列可定量判断肿瘤的乏氧程度、检测微出血病灶等, 在疾病的诊断及鉴别诊断中具有潜在的优势。本文对ESWAN成像技术研究进展作一综述。

**Abstract:** To date, ESWAN(enhanced gradient echo T2-star weighted angiography) sequence has been applied gradually as an advanced multi-modal magnetic resonance imaging tool. With its multiple echo collecting process, multiple quantitative imaging parameters could be obtained in one scan. Paramagnetic substances behave in different patterns between normal tissues and lesions due to their different magnetic susceptibility, based on which ESWAN can judge the hypoxic degree of tumor and detect if there are any micro-hemorrhaging lesions. Based on these advantages, ESWAN is a promising approach in clinical diagnosis and identification diagnosis. The aim of this study is to review the progresses in ESWAN imaging technique.

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备注/Memo: -

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