ROP30-2

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パシフィコ横浜 会議センター 3F
313+314

JRS：一般研究演題（電子ポスター＋口演）
労務安全

座長

聖マリアンナ医科大学
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ROP30-2
MRI椎体自動ラベリングソフトウェアによる放射線科医の読影時間短縮効果の検討

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抄録

Objective
To evaluate the effectiveness of a commercial MRI vertebral auto-labeling software in reducing interpretation time among radiologists.

Materials and Methods
This study included cervical, thoracic, and lumbar spine MRI scans obtained between January 1, 2012, and May 31, 2024, from two institutions. Four disease categories were included: bone metastasis/spinal or spinal cord tumors, compression fracture, intervertebral disc herniation, and spondylitis/discitis. A total of 826 cases were initially registered. After excluding duplicate examinations, 445 cases were used for performance testing and 206 cases were randomly selected for the reading experiment, considering disease distribution. In the performance test, one board-certified radiologist evaluated labeling performance using sagittal T1WI, T2WI, and STIR sequences. The reading experiment was conducted twice, with and without labeling, separated by an interval of at least four weeks. After excluding cases without labeling display, 185 cases were analyzed. Five radiologists (two board-certified and three non-specialists) participated in the reading experiment. For each case, readers selected one of the four disease categories, identified the affected vertebral level, and the interpretation time was recorded. After excluding cases with incomplete records, 167 cases were analyzed. Differences in reading time between the two sessions for each reader were assessed using the Wilcoxon signed-rank test.

Results
All five readers showed significantly shorter reading times with labeling than without labeling ($p<0.05$). Vertebral labeling facilitated lesion identification and improved reading efficiency.

Conclusion
The commercial vertebral auto-labeling software significantly reduced radiologists' reading time and may help alleviate interpretation workload.