

CLINICAL DECISION TREE FOR OPTIMISING ENDOSCOPIC ASSESSMENT OF SIGNET RING CELL CARCINOMA IN HEREDITARY DIFFUSE GASTRIC CANCER SURVEILLANCE

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Poster

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A machine-learning-based clinical decision tree improved endoscopic detection of early signet ring cell carcinoma during surveillance in hereditary diffuse gastric cancer syndrome carriers.

KEY POINTS

- In prospective validation with 66 CDH1 pathogenic-variant carriers, the clinical decision tree achieved 77.8% sensitivity and 90.7% specificity for signet ring cell carcinoma diagnosis.
- The clinical decision tree significantly improved average sensitivity among non-experts from 66.7% to 87.5% and among experts from 74.1% to 91.7% ($P = 0.03$).
- Retrospective analysis of 537 endoscopies showed Cambridge criteria achieved 82.8% sensitivity and 78.2% specificity, with the presence and number of neoplastic pale areas serving as independent predictors of higher cancer burden.
- This framework addresses the challenge of endoscopic recognition of early signet ring cell carcinoma in hereditary diffuse gastric cancer syndrome, where endoscopic surveillance informs timing for prophylactic total gastrectomy.

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