Prospective study to evaluate scars after colorectal EMR using NBI with dual focus and underwater technique (uNBI-DF): Interim analysis

Authors: Leonardo Zorron Cheng Tao Pu[1,2]; Doreen Siew Ching Koay[2]; Amanda Ovenden[1]; Alastair D Burt[1]; Rajvinder Singh[1,2]

Affiliations: [1]School of Medicine, the University of Adelaide, Adelaide, South Australia, Australia; [2]Gastroenterology Department, Lyell McEwin Hospital, Adelaide, South Australia, Australia

Introduction

Surveillance colonoscopies post-endoscopic resection (pER) currently warrants histological evaluation of scars[1]. This implies in biopsies for evaluation by a pathologist, therefore increasing the costs associated with the procedure. Endoscopic prediction may preclude these[2].

Aim

To evaluate the use of narrow band imaging (NBI) with dual focus magnification and water immersion technique (uNBI-DF) for predicting pER recurrence.

Methods

From an image library, 50 images were used to identify key features of scars, with and without recurrence. Scars with at least two characteristics were defined as being diagnosed with 'high confidence'.

Patients from an elective colonoscopy list for surveillance pER were prospectively enrolled to evaluate these criteria. Scars were evaluated using uNBI-DF and a cap after infusion of clear water. The final endoscopic prediction was then correlated with histopathology.

Results

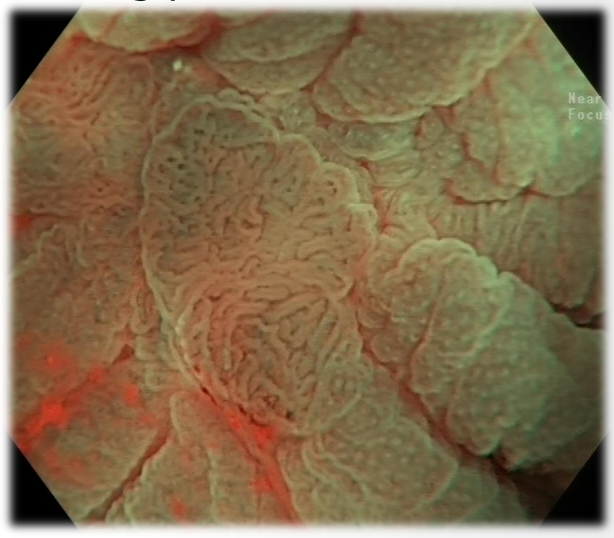
A total of 29 scars from 27 patients were evaluated. All scars were diagnosed with high confidence. The prediction was 100% accurate (5 scars with recurrence - 17.2%). All recurrence within scars were diminutive in nature and amendable for endoscopic resection.

Conclusion

uNBI-DF is useful for predicting recurrence within scars pER. Most of scars (83%) were accurately predicted as scar tissue without recurrence. This could potentially mitigate unnecessary biopsies when patients present for surveillance colonoscopy pER.

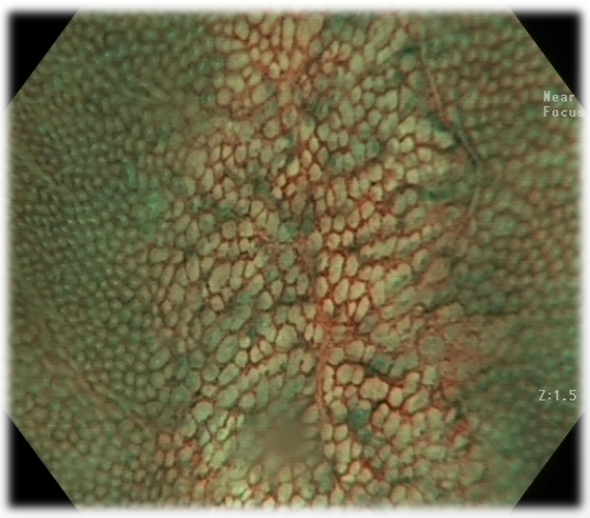
Recurrence

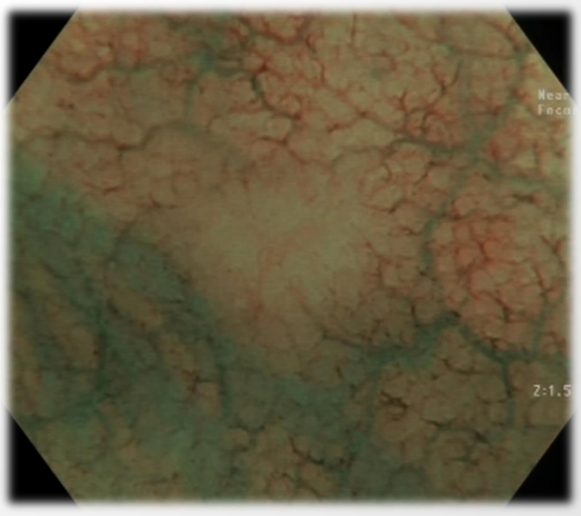
1. dark brown colour
2. elongated or branched pit pattern
3. dense capillary pattern surrounding pits



No recurrence

1. Whitish/pale appearance
2. Round and slightly larger pits
3. Irregular sparse vessels with no change in calibre





References

1. Knabe M et al., AJG 2014
2. Desomer L et al., GIE 2016

Acknowledgements

Dr. Pu was supported by the University of Adelaide with expenses for the submission of abstracts, printing fees of posters and overall with the Beacon of Enlightenment scholarship. Ferring Pharmaceuticals supported the attendance through the registration fees.