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Computer Aided Detection of Colonic Polyps during Colonoscopy

A Cost Effectiveness Analysis

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Introduction and Methods

Background

- Computer Aided Detection (CADe) has been shown to increase Adenoma Pick-up Rate (ADR) in colonoscopies. One such module is Medtronic's GI Genius Intelligent Endoscopy Module currently used in Sengkang General Hospital

Objectives

- Determine if benefits of CADe justifies its incurred cost, to warrant its **routine use in screening**

Methods

- A **Decision Tree Model** was used to calculate the **Incremental Cost Effectiveness Ratio (ICER)** of the CADe.



Signing of the Memorandum of Understanding by senior consultants in Sengkang General Hospital and representatives of Medtronic, at Sengkang General Hospital on 14 March 2023

Results

ICER Results

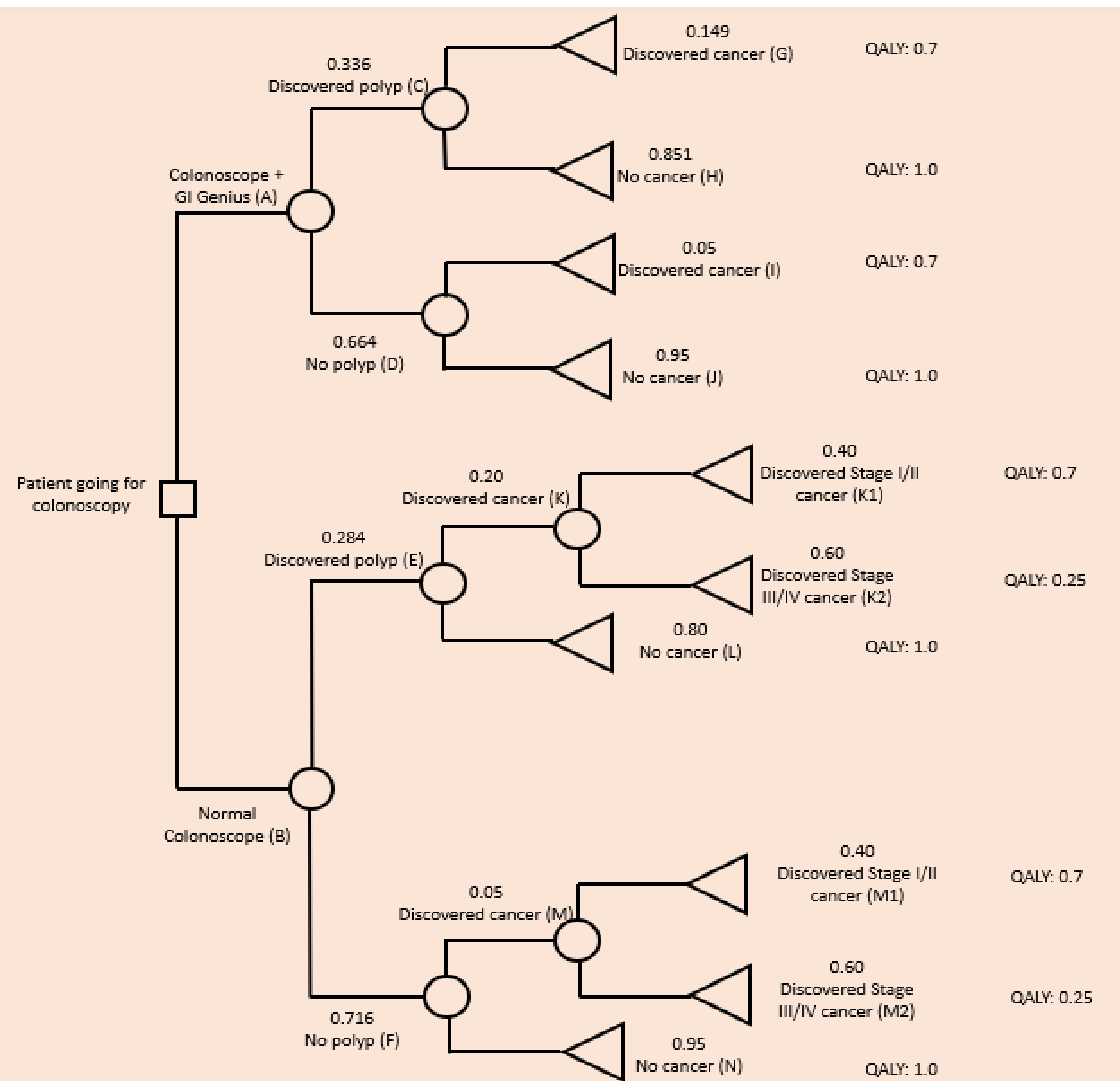
- The ICER calculated was **0.72**, proving the cost-effectiveness of the GI-Genius Endoscopy Module

QALY Results

- The final QALY ratio calculated was **1.03**, suggesting that the GI-Genius Endoscopy Module improves quality of life as well



Use of the GI-Genius Endoscopy Module during colonoscopy to detect small, easily missed polyps



Discussion and Conclusion

Discussion

- The implementation of the GI Genius has revolutionised the fields of colonoscopy and colorectal cancer screening.
- With both an improvement in the quality of scopes and minimal impact on procedural time, GI Genius can prove massively helpful in colonoscopies in the future.

Conclusion

- Routine use of GI Genius in colonoscopy is a cost-effective means of improving pick-up rate for adenomas and detection of earlier colorectal cancer, ultimately being a promising avenue for improved quality of colonoscopies across Singapore.