

# Acute appendicitis as an early manifestation of colorectal cancer for patients aged 40 years and above

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## Introduction

Acute appendicitis is one of the most common general surgical emergencies. Use of radiologic imaging, in particular computed tomography (CT), has resulted in more accurate diagnosis of acute appendicitis.<sup>1</sup>

As patient's risk of colorectal cancer increases with age, occult colorectal malignancy presenting as acute appendicitis is not unfamiliar in the medical literature.<sup>2</sup> However, there is no clear guidance as to who should be screened routinely pre and post-appendicectomy.<sup>3</sup>

## Aims

- To explore the correlation between acute appendicitis and colorectal cancer in patients  $\geq 40$  years old.
- To determine the need of routine pre-operative CT imaging and post-operative colonoscopy as a follow-up screen for early detection of colorectal cancer in patients  $\geq 40$  years old.

## Methodology

- Retrospectively reviewed the records of appendicectomies performed in patients  $\geq 40$  years old at Royal Blackburn Hospital between January 2006 to September 2021.
- Results of radiological investigation pre-appendicectomy and colonoscopy post-appendicectomy were reviewed.
- Patients who were diagnosed with colorectal malignancy at the time or subsequent to their appendicectomy were recorded and analysed.

## Results

- A total of 1261 patients had appendicectomy during the study period, but only 1236 were analysed. (Figure 1)
- 33.3% (n = 412) patients had pre-operative CT imaging (Figure 2). Only one pre-operative CT revealed a tumour which later confirmed as sigmoid adenocarcinoma.
- 5.7% (n = 71) patients had a colonoscopy post-appendicectomy, of which 2 patients were diagnosed histologically with caecal adenocarcinoma.
- The overall incidence of colorectal cancer in this study population was 1.8% (n = 22).
- Among the 22 patients diagnosed with colorectal cancer, 1.1% (n = 13) were diagnosed with a malignancy at the time of appendicectomy, namely 3 low-grade appendiceal mucinous neoplasms, 5 neuroendocrine tumours, 3 adenocarcinoma, 1 goblet cell carcinoma and 1 lymphoma. 85% (11/13) malignancies were in the right colon.
- The remaining 0.7% (n = 9) were diagnosed with malignancy post-appendicectomy. All 9 patients had adenocarcinoma. 2 of the 9 patients were diagnosed with caecal  $\pm$  ascending adenocarcinoma within 6 months. Remaining 7 of the 9 patients were diagnosed with adenocarcinoma 3 years to 11 years post appendicectomy. 56% (5/9) malignancies were in the right colon.

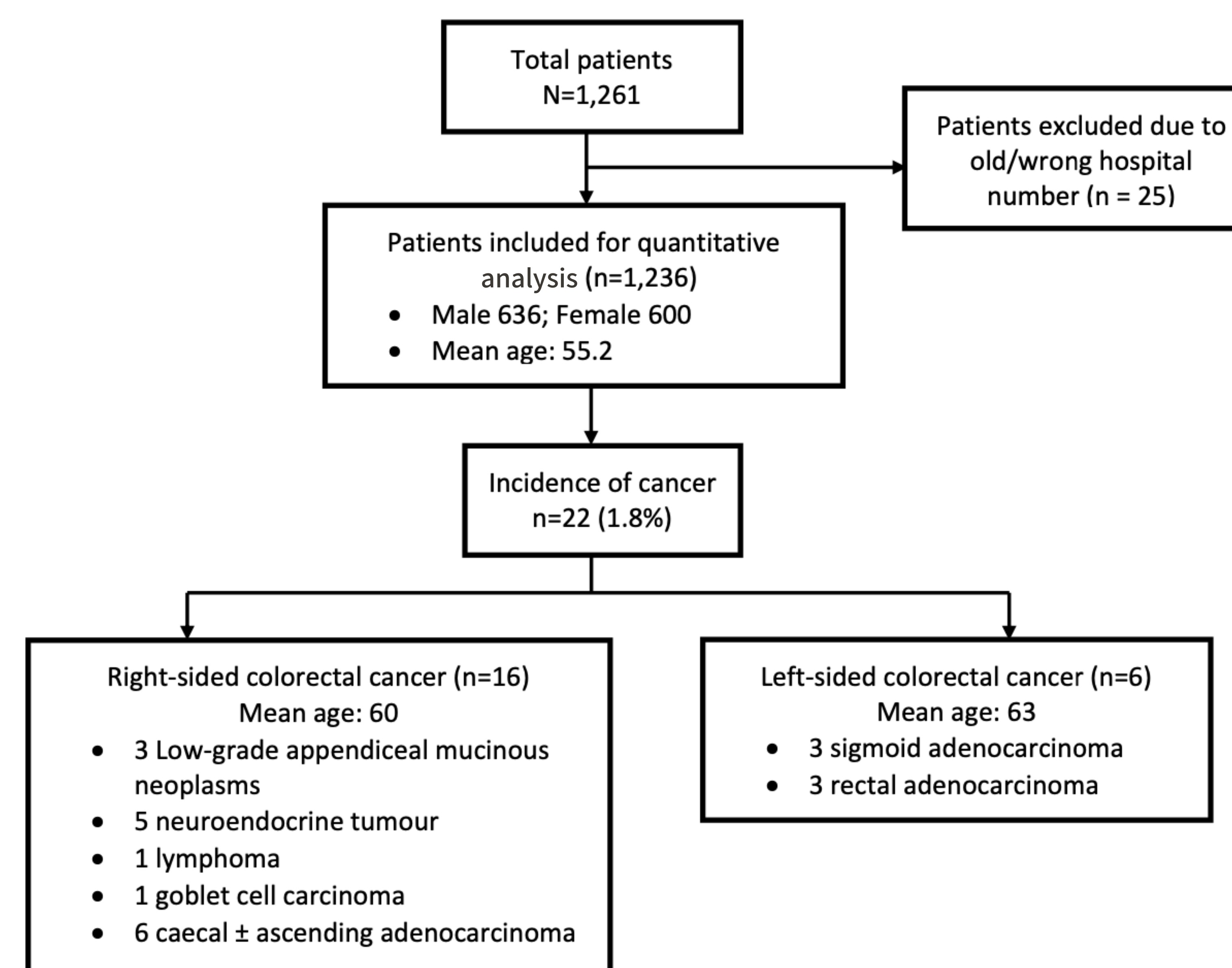


Figure 1: Flow diagram illustrating patients diagnosed with colorectal cancer in the study population

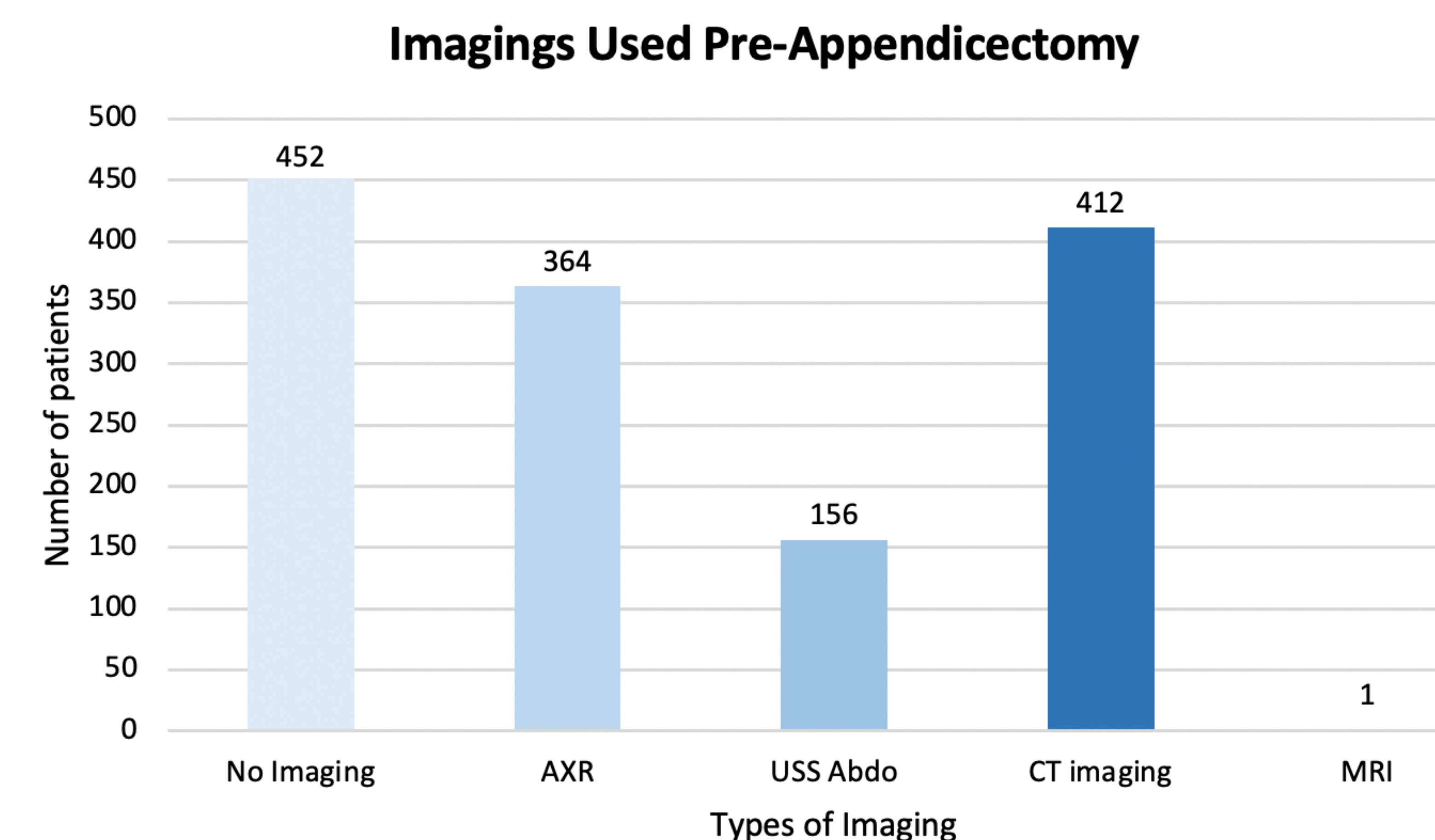


Figure 2: Types of imaging used pre-appendicectomy

## Conclusion

Preliminary finding suggests this is an area that warrant further study. Patients aged 40 years and above may benefit from a post-appendicectomy colonoscopy to exclude occult colorectal malignancy.

## References

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