

## Early Recognition of Post Polypectomy Syndrome, Enables Conservative Management – A Case-Report

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### Abstract

Post polypectomy syndrome occurs as a result of electrosurgical thermal that extends to the serosa surface of the colon without causing a perforation. This case reports describes the progression of a patient who developed severe abdominal pain and fever 5 days post polypectomy. A provisional diagnosis of post polypectomy syndrome was established early, thus preventing unnecessary surgical intervention.

**Keywords:** Post Polypectomy Syndrome; Colon Polyps; Colon Polypectomy

### Introduction

We describe a case of Post Polypectomy Syndrome. Post Polypectomy Syndrome results from an electrosurgical thermal injury which extends to the serosal surface of the colon, without actual perforation. It is a known complication of polypectomy, albeit rare. The incidence is reported to be around 1.0% of polypectomies [1]. It usually occurs one to five days after resection of large, sessile (> 2cm) polyps, particularly those in the ascending colon [2-4].

### Case Report

A sixty-four year old ex-police officer with co-morbidities of Type 2 Diabetes Melitus, Coronary Artery Disease, Congestive Heart Failure and End Stage Renal Disease presents with symptoms of decompensated heart failure. He had a Coronary artery bypass in 2012.

He is admitted to the ward and managed appropriately for his failure symptoms. Unfortunately, he developed a lower gastrointestinal bleed (LGIB) while in the ward and was referred to the

gastroenterology team. An esophagogastroduodenoscopy (OGDS) and Colonoscopy was done. The OGDS study was normal. The colonoscopy showed multiple diverticulum over sigmoid, distal colon and distal transverse colon. There was no stigmata of and acute or recent LGIB. There were two large colonic polyps seen, 30 and 25 centimetres from the anal verge respectively. The latter, was 25 cm from the anal verge and had a diameter of 2.4 centimetres with a short thick stalk. The former, was 30 centimetres from the anal verge with a diameter of 1.8 centimetre with a short stalk. He was given a date for an elective, follow-up colonoscopy upon discharge.

During the follow-up Colonoscopy, an end loop was placed around the larger polyp, in anticipating risk of post polypectomy bleeding, prior to polypectomy. Post polypectomy, it was noted that the end loop was placed slightly above the base of the stalk, resulting in a remnant stalk. The remnant stalk (Figure1) with the end loop in-situ was left, with the plan to have it cleared once histopathology reports were made available. The smaller polyp was excised completely with a hot snare.

**Figure 1:** Remnant stalk (arrow) from the larger polyp during the second Colonoscopy. Note that the endoloop that was placed around the polyp is no longer seen.

No immediate post polypectomy complications were noted. The patient was observed in the ward with heparin free haemodialysis while awaiting for the histopathology results. The histopathology report showed evidence of a Mixed serrated polyp with high grade epithelial dysplasia (Figure 2).

**Figure 2:** Histopathology of the excised polyp at various magnifications.

The second colonoscopy was done 48 hrs after the first, once the histopathology results were available. The objective was to assess if the stalk from the larger polyp (2.4cm in diameter) can be raised and removed. The endoloop that was placed earlier was no longer in-situ. The base of the stalk was injected with gelafusin and methylene blue. The stalk could not be raised from the base. The procedure was abandoned. Twenty four hours after the second colonoscopy, the patient was well, tolerating orally and afebrile. However, five days after the first polypectomy, the patient developed severe abdominal pain, nausea, vomiting and distension. On examination, the abdomen was distended with rebound tenderness and spikes in temperature. The bowel sounds were absent. Auscultation of the lungs were clear, and examination of the cardiovascular system was unremarkable. White cell counts (WCC) were raised from a baseline of  $9.3 \times 10^9$  prior to the polypectomy to  $20.3 \times 10^9$  on the day when the patient developed severe abdominal pain.

#### Investigations

The WCC normalized to 8.5 about two days later. The amylase levels were never raised at 49. Haemoglobin remained stable at 9.8 - 10. g/dl. The liver function test was normal except for the elevated ALP of 306. The renal profile was deranged, in keeping with End Stage Renal Disease. Spikes in temperature ranged from 38.5- 39 degrees Celcius. The Blood Pressure (BP), remained stable throughout the admission. Systolic BP ranged from 130 - 159mmHg, while the Diastolic BP ranged from 68-90mmHg. The average heart rate was 88/min.

#### Management

A NG tube was inserted and the patient was started on a 6 pint Dextrose-Saline drip while being kept Nil By Mouth (NBM). A Central Venous Pressure line was inserted to monitor hydration. A Chest X-Ray revealed no air under the diaphragm. The abdominal X-Ray was normal. The patient was commenced on IV Tazocin at the onset of the fever. A CT Abdomen confirmed that there was no evidence of a pneumoperitoneum. Three days after the onset of his presentation, the patient's abdominal pain and distension had gradually resolved. Repeated Full Blood Counts showed a reduction in WCC.

#### Discussion

In this case, a number of differential diagnoses could be considered: (1) Diverticulitis with Diverticular perforation. The age-adjusted adult incidence of perforation was 3.5 per annum (UK population)<sup>5</sup>. A higher mortality rate was reported in those with

pre-existing renal impairment, advanced age, and pre-existing NSAIDs (Non-steroid Anti-Inflammatory Drugs) use. (2) Iatrogenic Post Colonoscopic Perforation. This complication occurs in up to 5% of Therapeutic Colonoscopies, though the actual incidence could be as low as 0.016% of all diagnostic colonoscopy procedures [6]. (3) Post polypectomy perforation. The risk of a perforation in polypectomies is increased if the location of the polyp is in the cecum, if the procedure involves a longer electrocautery time, procedures requiring piecemeal removal of large sessile polyps, or in cases of removal of larger polyps [7].

The absence of air under the diaphragm on the chest X-ray and lack of evidence of a pneumoperitoneum on the CT abdomen ruled out the three differential diagnoses stated. By exclusion, the diagnosis in this case is Post Polypectomy Syndrome. The pathophysiology of post polypectomy syndrome is purely attributed to electrosurgical thermal injury result in transmural burns but not amounting to a perforation. The management is usually conservative, with Intravenous antibiotics and close monitoring by the gastroenterologist and the surgeon. Risk of evolution to frank perforation is reported to be low.

Conservative management is recommended until the abdominal pain has resolved and the white cell counts has normalized. This usually occurs by 5 to 14 days. The risk of Post Polypectomy Syndrome can be reduced if polyps larger than 2cm were resected in piecemeal fashion. Piecemeal resection limits and distributes electrosurgical energy used thereby reducing the risk of transmural burns [8]. Submucosal injection of normal saline solution, creates a pseudostalk enabling a more effective polypectomy. It also increases the physical space between the mucosa and muscularis propria, thereby reduces the risk of transmural burns. For this patient, three options were available following postpolypectomy syndrome for the remnant stalk: (1) Conservative management involving surveillance colonoscopy and conduction BRAF/KRAS mutations in determining risk for transformation to colorectal carcinoma; (2) endo-mucosal resection (EMR) after a rectal endoscopic ultrasound to confirm the depth of infiltration of the remnant stalk. The risk of a polyp 2cm in diameter or larger being malignant is greater than 10%; (3) a hemicolectomy involving the resection of the diverticulum and stump.

## Conclusion

Recognizing Post polypectomy syndrome requires diligent observations with clear radiological signs discounting perforation.

Post polypectomy syndrome can be managed conservatively, avoiding unnecessary surgical intervention.

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