

Screening and Management of Colon Polyp as Colorectal Cancer Prevention

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ABSTRACT

Colon polyp is a term used for abnormality from bulging tissue above surrounding colonic mucosal layer. Adenoma polyp was the commonly found polyp that progress to colorectal cancer. Most of those patients was asymptomatic. Undetected and unmanaged polyp was a risk factors of colorectal cancer event.

Keywords: colon polyp, colon, screening, colorectal cancer, colon cancer

ABSTRAK

Polip kolon adalah istilah yang dipakai untuk menggambarkan kelainan jelas yang menonjol di atas permukaan mukosa kolon yang mengelilinginya. Polip adenoma adalah jenis polip yang sering mengalami progresi menjadi kanker kolorektal. Kebanyakan pasien dengan polip tidak mengeluhkan gejala. Polip kolon yang tidak terdeteksi dan ditatalaksana dengan tepat adalah salah satu faktor risiko terjadinya kanker kolorektal.

Kata Kunci : polip kolon, kolon, skrining, kanker kolorektal, kanker kolon

INTRODUCTION

According to Ministry of Health data in 2006, colorectal cancer was the third highest cancer in Indonesia, account for 1,8/100.000 cases per population.¹ In US, more than 41,000 people was diagnosed colorectal cancer every year. From those data, more than 16,000 died because of colorectal cancer each year.²

To prevent its morbidity and mortality, several risk factors should be controlled, such as age, family history of colorectal cancer, inflammatory bowel disease, and specific familial adenomatous polyposis (FAP).² Endoscopic screening was recommended to lower incidence and mortality of colorectal cancer in

Europe and US.³

Several types of polyp such as adenoma and serrated was highly potential for malignancy transformation. Adenoma progression into invasive cancer was happened in 5 to 20 years. A study revealed that inly 0.25% adenoma transformed into cancer.^{4,5} Most of them were stable or regress. Overall, a ten-year projection cumulative risk of adenoma progression into carcinoma was 10%.²

DEFINITION

Polyp was a term used to explain an abnormality showed by a bulging tissue above surrounding mucosa. Shape, size, and surface of each polyp were different. A polyp with stalk called pedunculated polyp and those

without stalk and having a wide base was called sessile polyp. To know exactly the type of polyp, a histological examination was needed.⁶

CLINICAL MANIFESTATION

Most of patients with colon polyp were asymptomatic. Some patients complain bloody stool or lethargy because of anemia from chronic bleeding. Others complains could be diarrhea or constipation. Distal rectal polip could be detected during digital rectal examination, although mostly it comes to normal results. Fecal occult blood test only positive in minority of patients.⁷

CLASSIFICATION

Colon polyp was classified as: (1) Non-epithelial polyp; (2) Epithelial polyp.⁶ Non-epithelial polyp origins from lymphoid tissue, smooth muscle, fat, and nerve. As an example is lymphoid polyp with sessile characteristic was found in submucosal layer of distal rectum and was benign. This lymphoid polyp actually was a local inflammation. Otherwise, epithelial polyp was more commonly found, classified as: (1) Adenoma or neoplastic; (2) Hamartoma; (3) Inflammatory polyp; (4) Hyperplastic polyp.

Adenoma

Adenoma or neoplastic polyp was divided into three subclassification based on its histological characteristic: (1) Tubular adenoma; (2) Villous adenoma; (3) Tubule-villous adenoma. Tubular adenoma morphology was small, spherical, and pedunculated with a smooth surface. Villous adenoma usually larger and sessile with rough surface. Otherwise, tubule-villous adenoma was a combination of both adenoma explained before.

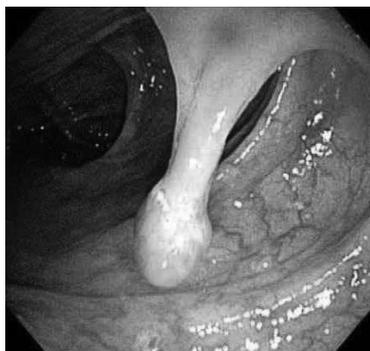


Figure 1. Pedunculated adenoma polyp⁸

Most of colon carcinoma was transformed from

adenoma.⁷ This process was called adenoma-carcinoma sequence. Based on several study about adenoma, the possibility of malignancy transformation was increased if the adenoma was large, villous, or having a severe epithelial dysplasia.

Colon polyposis was an adenomatous polyp with Mendelian inherited that rarely found in Indonesia. If one of the parents having polyposis, there is a 50% of their child to have polyposis. Before polyp was seen, atypical proliferation area was found in rectal mucosal biopsy. Later in this location, an adenomatous polyp was growing.⁸ In familial polyposis, hundreds to thousands polyp could be found. Heavy bleeding with tenesmus was a sign of malignancy transformation.

Hamartroma

It was a malformation of several tissue combination that normally found in that place. In colon, there were two types of hamartroma: (1) Juvenile polyp; (2) Peutz-Jeghers Syndrome polyp. Juvenile polyp was commonly found in pediatrics. Most of it was present in distal rectum to 5 cm away from rectum, in a limited number. Juvenile polyposis syndrome was a condition where a polyp was found in stomach, small bowel, and large bowel, but this condition was very rare. Macroscopically it was seen as small polyp to 2 cm polyp, round with smooth surface and reddish appearance. Polyp in Peutz-Jegher syndrome was found in small bowel, but 15% among them is also found in large bowel. This polyp was sessile or pedunculated, lobulated with rough surface, and was benign.

Inflammatory Polyp

This type of polyp was found in Chron disease, ulceratice colitis, basillary dysentery, amebiasis, and schistosomiasis. This polyp was seen as pedunculated, but its hard to differ between its stalk and head.

Hyperplastic Polyp

Commonly it is multiple and sessile, present in individual aged 40 years or older. This polyp can be found in every segment if bowel, but mostly in rectum. It characterized as smaller than 0,5 cm, similar color to surrounding mucosa, or sometimes slightly pallor. This polyp was found in 90% of endoscopic findings and was a benign protrusion.

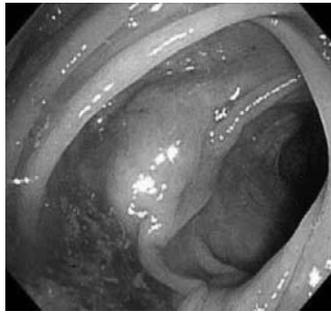


Figure 2. Sessile polyp⁵

POLYPECTOMY

The aim of polypectomy was to: (1) Prevent bleeding; (2) Prevent malignancy transformation by early diagnosis and treatment.¹ Because of malignant possibility, every polyp taken from intestine should be examined by pathologist, with no exception to small-size polyps. A villous adenoma larger than 2 cm should not be resected via endoscopy, but recommended to undergo surgical resection.

Before polypectomy procedure, patients should be fasting to make an empty bowel. An unemptied bowel would cause a gas like methane and hydrogen resides inside the bowel, so that it could be burn during procedure. Premedication is not necessary. Endoscope was inserted to reach the polyp, started from the proximal polyp. Colon was dilated using inert gas such as CO₂ which has minimum ability to be burned. With a metal snare, a polyp was snared in a location higher than its mucosa to prevent heat necrosis of surrounding tissue, but should be ascertained that as many stalks was resected. The head of polyp should not touch opposite mucosal layer, so that necrosis could be prevented. With an electrical power, a polyp was then cut.

In daily practice, a polyp sized to 2 cm could be resected. Otherwise, it was recommended that a polyp of 2-4 cm should undergo surgical resection. To release the polyp, a suction via endoscope could be done, but there was a risk of detached polyp. As an alternative, a retrieval forceps could be used to release polyp via endoscope.

The most commonly found complication of endoscopic polypectomy was bleeding, perforation, vasovagal reflex, and explosion. An explosion would not be happened if bowel was clean and a CO₂ gas was used. If polyp was later found to be malignant with carcinomatous tissue found in its edge, a resection must be done for its surrounding tissue. Only an in situ carcinoma that no need for resection, but a

routine endoscopic control was recommended. Routine endoscopic examination was also recommended for other type of polyps.⁶

COLORECTAL CANCER SCREENING IN COLON POLYP

Based on a cohort study, multiple colonoscopy with polypectomy could reduce colorectal cancer incidence by 76-90%.^{9,10} European Society of Gastrointestinal Endoscopy (ESGE) classified patients with adenoma to low and high risk of colorectal cancer progression.³ A low risk defined as 1-2 tubular adenoma sized < 10 mm with low-grade dysplasia or multiple serrated polyp sized < 10 mm without any dysplasia. A high risk was defined as villous adenoma or high-grade dysplasia, or more than 3 adenoma polyp, or serrated polyp larger than 10 mm with dysplasia. Below is the schematic diagram recommendation of colorectal cancer screening in patients with colon polyp.³

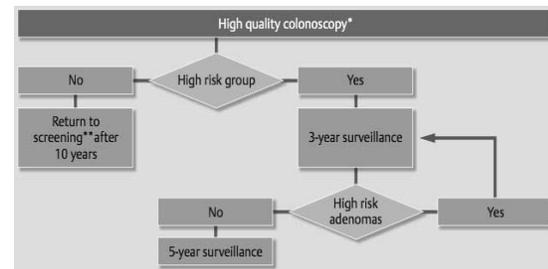


Figure 3. ESGE recommendation for colonoscopic screening³

World Journal of Gastroenterology (WJG) also recommended a screening for: (1) If an adenoma was not found, or found about 1-2 adenoma without dysplasia, a further screening was not recommended; (2) If 3-4 adenoma without neoplasia was found, a routine screening should be done every three years; (3) If more than 3 adenoma was found with neoplasia, or 5 adenoma without neoplasia, an annual screening was recommended.

CONCLUSION

Colorectal cancer was the third highest incidence of cancer in Indonesia, and still increasing. Colon polyp that was undetected or untreated properly was a risk factors of colorectal cancer transformation. Colon polyp usually asymptomatic to patients. Adenoma polyp was the commonly found polyp that can transform into malignancy.

Patients with a history of polyp or family history of familial adenomatous polyposis (FAP) of hereditary

non-polyposis colorectal cancer (HNPCC) was recommended to done a routine colonoscopy as an early detection of colorectal cancer. A high risk patients was also recommended to undergo routine examination to reduce the risk of colorectal cancer.

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