

# IDENTIFYING CHARACTERISTICS OF NONSYNDROMIC JUVENILE POLYPS

## Retrospective Cohort Analysis Offers New Insight

**Juvenile polyps are the most common intestinal polyps diagnosed in children. Sporadic juvenile polyps, which means five or fewer polyps, are thought to harbor little malignant potential, with a low likelihood of recurrence. Because this low number of polyps has historically been considered to be benign, with no syndromic association, pediatric gastroenterologists typically have not been concerned about them. However there have been instances of pediatric patients with sporadic polyps who returned with either a recurrence of polyps or neoplastic changes, leading to concerns about future malignancies.**

To date there are no established guidelines for these children, leaving gastroenterologists with questions about what to do next.

Are they truly always harmless? Should these patients be scheduled for follow-up and close monitoring?

Nadia Ibrahim, MD, pediatric gastroenterologist at Children's Mercy Kansas City, designed a study to learn the answers to these questions. Her ultimate goal is to help support the establishment of new guidelines for these children.

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### STUDY PARAMETERS

Dr. Ibrahim and her team conducted a study in patients seen from Jan. 1, 2003, to March 1, 2017. Patients from birth through age 18 with sporadic juvenile polyps or nonsyndromic polyps (no family history of juvenile polyposis syndrome and no juvenile polyps proximal from the colon) were included. A total of 213 patients met the criteria. For

those patients, a total of 326 colonoscopy procedures and 435 polypectomies were performed.

Patients were divided into three groups:

- Patients with a single juvenile polyp (n=138)
- Patients with 2-4 juvenile polyps (n=52)
- Patients with 5-10 juvenile polyps (n=23)

The team reviewed the following data:

- Basic demographics
- Age at first colonoscopy
- Clinical presentation
- Extent of colonoscopy
- Endoscopic findings, including number, size and location of polyps
- Histological findings, including size and pathologic characteristics, with dysplastic or adenomatous changes noted
- Recurrence of polyps was also noted on repeat scopes

They examined the relationship between select clinical factors and the number of polyps identified. Next, they determined whether the number of polyps was differentially distributed across patient-level factors, including gender, race, age (in months) at first scope, and clinical presentation. Finally, they compared polyp location (rectosigmoid, left, transverse and right colon), polyp volume and the presence of adenomatous transformation with the number of polyps. The slides of polyps reportedly harboring adenomatous transformation were independently reviewed by a pathologist to confirm the presence of neoplasia.

## STUDY SHEDS LIGHT ON POSSIBLE MALIGNANCY CONCERNS

The study revealed that some patients can experience adenomatous changes, even when they have only one polyp. These adenomatous changes that did not correlate with the number of polyps create concerns for possible future malignant transformation. Therefore, the longstanding belief that a single sporadic juvenile polyp is not of concern must be changed. These patients likely need further follow-up and monitoring.

For patients who experienced adenomatous changes, most were found in the right, or ascending, colon. This finding supports the use of a full colonoscopy instead of flexible sigmoidoscopy, to be able to find these changes and accurately identify them.



Dr. Ibrahim's study was published in the *Journal of Pediatric Gastroenterology and Nutrition*.

The review also showed small differences in the measurement of polyps, depending on whether they were measured by the endoscopist or pathologist. Chart data showed a tendency toward overestimation of size by the endoscopist in comparison to the pathologist. For the sake of accuracy, polyp

measurement should be provided by the pathologist.

The study was published in the December 2019 issue of the *Journal of Pediatric Gastroenterology and Nutrition*.<sup>1</sup>

## NEXT STEPS

Although this study sheds some important light on concerns related to five polyps or fewer, additional studies will be needed to support Dr. Ibrahim's findings. Insights from this and future studies can be used to develop consensus statements for clear guidelines that address the management of pediatric patients with sporadic juvenile polyps.

## SOURCES

<sup>1</sup> Polyp Characteristics of Nonsyndromic and Potentially Syndromic Juvenile Polyps: A Retrospective Cohort Analysis. Ibrahim N, Septer SS, Lee BR, Garola R, Shah R, Attard TM. *J Pediatr Gastroenterol Nutr*. 2019 Dec; 69(6):668-672.

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