Colonoscopic polypectomy in children

Venkatesh K L*, Tanveer Akhtar, Anand Alladi Siddappa

Dept of Paediatric Surgery, VaniVilas hospital, Bangalore Medical College and Research Institute, Bangalore. Karnataka. India.

*Correspondence Info:
Dr. Venkatesh K L,
Dept of Paediatric Surgery
VaniVilas Hospital, Bangalore Medical College and Research Institute Bangalore, Karnataka. India.
E-mail: drvenkatbh@yahoo.co.in

Abstract
Introduction: Colonoscopic polypectomy is one of the current methods in paediatric age group. The diagnosis and treatment of juvenile polyps requires a combination of obtaining accurate history, digital rectal examination (DRE) and colonoscopy.

Materials and Methods: From November 2008 to December 2010, 30 patients presenting with recurrent bleeding per rectum, underwent digital rectal examination, colonoscopy and colonoscopic removal of polyps using snare.

Results: 26 cases showed solitary polyp. 4 children showed multiple polyps. In 14 cases polyp was found in the posterior wall within 8 cms of the anal verge (rectum). In 16 children it was found to be beyond 8 cms.

Conclusion: Colonoscopy in all children with h/o bleeding per rectum after DRE and proper preparation helps for resection of polyp and visualization of the proximal colon for its multiplicity.

Keywords: Juvenile polyp; bleeding per rectum; colonoscopy

1. Introduction
Colonoscopic polypectomy is one of the current methods in paediatric age group. The diagnosis and treatment of juvenile polyps requires a combination of obtaining accurate history, digital rectal examination and colonoscopy. The shift of juvenile polyps to the more proximal colon and the concern for the presence of juvenile polyposis (>5 polyps), with its increased risk of malignancy, mandates that the entire colon be surveyed. Children with juvenile polyposis and adenomatous changes are more likely to have right-sided colonic polyps.

2. Materials and Methods
From November 2008 to December 2010, 30 patients presenting with recurrent bleeding per rectum, underwent digital rectal examination, colonoscopy and colonoscopic removal of polyps by snare. In all the cases there was no family history of juvenile polyposis.

Age ranged from 1 to 15 years. Digital rectal examination detected 14 children with polyps. In the remaining 16 children polyp was diagnosed at colonoscopy. 13 were male children and 17 female children. Colonoscopy was done under General Anaesthesia with propofol induction followed by inhalational anaesthesia without endotracheal intubation.

The double channel Olympus colonoscope was used in all cases for polypectomy. The polyps were removed by high frequency blended coagulation current. All the resected polyps sent for histopathology examination. All the patients were observed for 24 hours and none had any complication like bleeding, ulceration or perforation.
3. Results

26 cases showed solitary polyp. 4 children showed multiple polyps. In 14 cases polyp was found in the posterior wall within 8 cms of the anal verge (rectum). In 16 children it was found to be beyond 8 cms. For 11 patients it was found in the recto sigmoid region. For 4 patients it was found in the sigmoid region. For 1 patient it was found in the transverse colon. In 26 patients it was pedunculated, and sessile in 4 patients. HPE revealed juvenile polyp in 29 patients, lymphomatous in 1 patient. Size of the polyp varied from 1.5 cm to 3 cm. (Fig-1)

![Fig -1: Polypectomy specimen](image)

All the patients were electively admitted the previous day of the procedure. Peglec preparation is done with 25 ml/kg/hr till stools are clear. Peglec was given through N G tube for those children who could not drink. Maintenance I V fluid were put. (Table-1)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number of children</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 3 years</td>
<td>2</td>
</tr>
<tr>
<td>4 to 8 years</td>
<td>22</td>
</tr>
<tr>
<td>&gt;8 years</td>
<td>6</td>
</tr>
</tbody>
</table>

4. Discussion

Horrileno fist used the term juvenile polyp in 1957(3). Most polyps of the colorectum are benign and result from hamartoma of the mucosa or lymphoid hyperplasia of the sub mucosa. Juvenile polyps can be due to hereditary, genetic, hamartomatous malformation. They are as a result of a structural rearrangement of the mucosa secondary to an inflammatory process. Polyps are the most frequent cause of rectal bleeding in toddlers and preschoolers 2 to 5 years of age. Juvenile polyps are most common (>80%), followed by lymphoid (15%) and adenomatous (3%) .

The distinction between the commonly occurring isolated juvenile polyps, which are benign, and the rare juvenile polyposis syndromes, which may be malignant has become increasingly important. Jass has proposed the following criteria for increased risk of cancer in children with polyps:

1. > 5 juvenile polyps
2. Polyps throughout gastrointestinal tract
3. Any number of polyps associated with a family history of juvenile polyposis.

4.1 Snare Polypectomy

Snare is a self contained metal ring that is opened over the polyp and then closed entrapping polyp tissue for resection by closing the ring. Polyp is captured in the snare; the snare plastic sheath should be advanced moving the polyp away from the scope tip if electrocautery is to be used to avoid electrical damage to the scope. When snaring a pedunculated polyp, the snare should be placed about half way up the stalk, so that after cutting, a stalk remnant is left which can be
grabbed or clipped if hemorrhage occurs. The polyp is pulled away from its base into the lumen tenting the colon wall to avoid burning the adjacent deep colon layers\(^9\). If the snare is too tight prior to electrocautery application, it could result in inadvertent cold cutting the polyp, resulting in bleeding from the stalk or in the snare becoming entrapped into coagulated tissue in the stalk\(^10\).

5. Conclusion

Colonoscopy in all children with h/o bleeding per rectum after DRE and proper preparation helps for resection of polyp and visualization of the proximal colon for its multiplicity. Children with juvenile polyposis and adenomatous changes are more likely to have right–sided colonic polyps. Therefore all polyps should be removed and undergo histologic evaluation. Complications after colonoscopic removal of polyps are rare.

References

1. Nicolls RJ, Lubowski DZ; restorative proctocolectomy ; the four loop reservoir. *Br J surg* 1987;74;564-566.