Scholars Journal of Medical Case Reports **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2014; 2(5):339-341 **ISSN 2347-9507 (Print)**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2014.v02i05.010

Osseous Metaplasia in A Juvenile Rectal Polyp- A Rare Histological Finding

Mohammed Moid Afzal*[1], Anunayi Jeshtadi[2], Keerthi Prakash Kotla[3], V. Vijay Sreedhar[4]
[1]Assistant Professor, [2]Associate Professor, [3]Postgraduate Resident, [4]Professor and HOD
Upgraded department of Pathology, Osmania Medical College/Hospital, Hyderabad, India

***Corresponding Author:**
Name: Mohammed Moid Afzal
Email: drmoidafzal@gmail.com

Abstract: Osseous metaplasia is known to occur in non-neoplastic and neoplastic lesionsof gastrointestinal tract and is exceedingly rare in colonic polyps. Heterotopic bone formation is rarely described in gastro intestinal lesions. Only few cases are reported in the literature. We here with report a case of osseous metaplasia an incidental histological finding in a rectal polyp in 12 years male child who presented with epigastric pain and diarrhea of mucoid type for the past 6 months and rectal bleeding for past 2 months. Though it is a histological finding incidentally found, here in we present this case for its rarity with review of literature.
Keywords: Inflammatory colonic polyp, Juvenile rectal polyp, Osseous metaplasia

INTRODUCTION

Juvenile rectal polyps are hamartomatous lesions which shows occurrence of osseous metaplasia. The first description of the heterotopic bone was given by sperling in 1981[1].The mechanism which is responsible for this change has not been completely understood. Clinical and prognostic significance is still not understood. Osseous metaplasia is a well described phenomenon in these settings of intestinal metaplasia of both benign and malignant conditions of gastro intestinal tract.

CASE DETAILS

A 12 year male child presented with epigastric pain and diarrhea of mucoid type over a 6 months period. Occasionally he noted blood in the stools. Past history , the patient was asymptomatic 1 year back and was known case of allergic bronchitis / bronchial asthma treated by local doctor, no history of epilepsy on examination patient was afebrile, vitals within normal limits, abdominal examination revealed no organomegaly . Routine laboratory investigation were nil remarkable .Per rectal digital examination- tone was normal, no blood or mucus was seen. Colonoscopy findings– scope could be negotiable upto caecum. Mucosa is normal in appearance .However distal rectum showed single sessile polyp of size 1.5 x1 cm not bleeding on touch, so a clinical diagnosis offered was rectal polyp/ juvenile polyp

HISTOPATHOLOGY:

GROSS: We received single polypoidal mass of 1.5 X0.5 cm, small stalk noted; cut section showed grey white to grey brown areas.

MICROSCOPY: Showed polyp lined by colonic mucosal glands lined by tall columnar cells focal ulceration (Fig 1 and 2), some of the crypts were cystically dilated with mucinous material, lamina propria showed chronic inflammatory lymphomononuclear cell collections and metaplastc osteoid and prominent fibroblasts (Fig 3,4,5)

DISCUSSION

Pathogenesis of osseous metaplasia of Juvenile rectal polyp remains unknown[2]. Possible mechanisms being production of bone morphogenic proteins like BMP2 and BMP4 (BMPs) by fibroblasts from the tumor may be a factor[3]. Dukes described similar findings in rectal carcinoma. Long duration, low grade histology, presence of necrosis and dystrophic calcification may be the contributory factors[4]. In 1964 Marks and Atkinson described ability of fibroblasts to transform into osteoblasts along with persistent chronic inflammation in the lesion[5]. This phenomenon was found to be striking histological incidental finding which may be clinically and prognostically insignificant.

Osseous metaplasia has been described in various types of polys like adenomatous , hyperplastic and hamartomatous polyps of GIT, they are also described in mucin producing tumors of colon and stomach[6]. Histologically necrosis, inflammation preexisting calcification , increased vascularity and extracellular mucin deposition are reported to be associated with heterotropic bone formation[7]. In 1989 Randall Etal demonstrated increased alkaline phosphatase expression, a marker of osteoblasts from proliferating mesenchymal cells[8]. Stromal fibroblasts

transforming into pluripotent stem cells which gain capability to differentiate into osteoblasts under the influence of transcription factors like C-Myc and SOX-2 was another mechanism proposed[9].

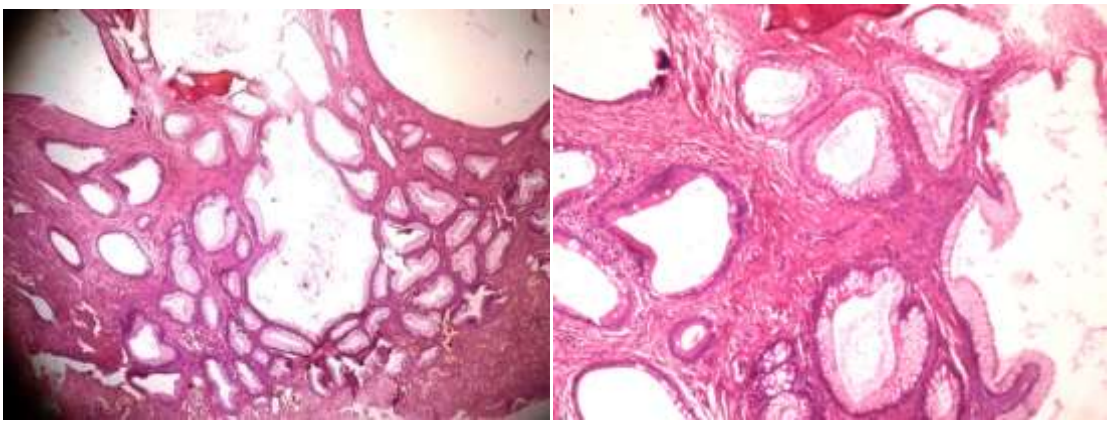

Fig-1 and Fig 2- 10x and 40x Haematoxylin and eosin sections of polyp showing mucosal glands, lamina propria with inflammation and cystic dilatation

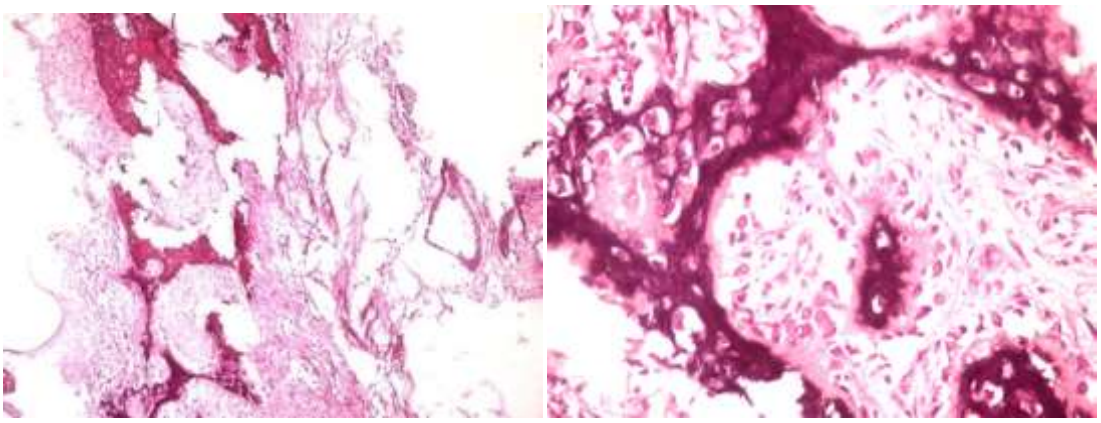

Fig-3and Fig -4: 10x and 40x Haematoxylin and eosin sections of polyp wit areas showing osseous metaplasia

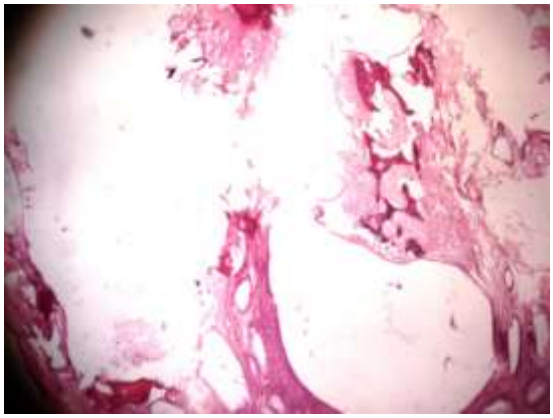

Fig-5: 10x Haeamtoxylon and eosin section of polyp showing areas of cystic dilatation, mucinous material and herotopic bone

CONCLUSION

Juvenile rectal polyps are rare in occurrence and those with metaplastic changes are still rarer. Heterotopic bone formation is known to occur in such settings and they may not have any clinical or prognostic significance. We present this case for its rarity.

REFERENCES

1. Sperling MH, Friedman CJ; Osseous metaplasia in a benign colonic polyp. Gastrointestinal Endosc.,1981; 27(3)198-199.
2. Garg M, Kaur J, Mahajan NCJ; clindiagn res may, 2013; 7(5) 908-910.

3. Odum BR, Bechfold MI, Diaz Arias A; osseous metaplasia in an inflammatory polyp of rectum; a case report and review of the literature. Gastroenteral Res, 2012; 5(2): 74-78.
4. Dukes CE; Ossification in rectal cancer. Proc R soc med, 1939; 32(11):1489-1494.
5. Marks MM , Atkinson KG; Heterotopic bone in a juvenile rectal polyp: case report. Dig colon rectum, 1964; 7(5):345-347
6. Cavazzaa, Sassalelli R; Demarco bonemetaplasia in adeno Pazmatous intestinal polyp report of a case and review of literature. Pathologica, 1996; 88(6);511-513.
7. Ansari MQ, Sachs IL, Max E, Alpert LC; Heterotopic bone formation in rectal carcinoma case report and literature review. Dig Dis sci,1992; 37(10):1624-1629.
8. Randall JC, Morris DC, Tonta T, Anderson HC; Heterotopic ossification a case report and immunohistochemical observatiuon. Hume Pathal, 1989; 20(1):86-88.
9. Takahashi K, Tanabi K, Ohnuki M, Narita M, et al; Induction of pluripotent stem cells from adult by derived factors. Cell, 2007; 131(5):861-872.