

# Angiodysplasia of Left Colon Extending to Anal Verge Landed Patient into Apr: A Rare Diagnosis

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## Introduction

Angiodysplasia is the most common vascular lesion of gastrointestinal tract that may occur in any part of GI tract most common being the cecum and ascending colon (77%), jejunum and ileum comes after (15%) [1,2]. It is an age related degenerative lesion of previously healthy small blood vessels present in sub mucosa of the involved segment, causing thinning and dilation vessels [3]. It may be found as an isolated lesion or as multiple lesions [1]. Patient may present with melena or hematochezia.

Though the pathophysiology of development of angiodysplasia is uncertain, it is thought to be due to chronic sub mucosal venous obstruction. That leads to dilation of veins gradually over many years. This explains why it is more common in older age group [4]. Age related degeneration and weakening of smooth muscle layer of the vessels also has an impact over it. The fact that it is more common in right colon can be explained by Laplace law, that states intramural tension is equal to the radius multiplied by pressure gradient across the colonic wall i.e. pressure difference between the colonic lumen and peritoneal cavity.

During episodes of colonic distension, intraluminal pressure increases which results in rise in intramural tension. As

intramural tension increases it leads to sub mucosal venous outflow obstruction. Repeated episodes of venous obstruction cause gradual dilation of small veins, eventually dilation of feeding arterioles and venules. Result of this being the formation of small arterio-venous communication. That is why veins fill characteristically early during mesenteric angiography. The aim of this study is to report a rare case of angiodysplasia in a young male with dysplastic changes starting from mid-transverse colon coming down to the rectum and anal canal up to anal verge. These changes were visible intra-operatively by naked eyes on the serosal surface of the involved bowel. Patient landed in permanent colostomy after surgery. The study includes pathophysiological, clinical, radiological, histological attributes of the disease along with its treatment. Most of the cases presented in the literature are older than the case we are presenting here and are reported to involve right colon.

## Case Report

A 25 years male presented to us with complains of bleeding per rectum and generalized weakness for one month. Bleeding was intermittent, quite large in amount, bright red in colour unrelated with faces. No history of any pain during bleeding or during defecation. History of constipation was present for which he has to take laxatives sometimes, otherwise

bowel habits were normal. Not associated with pus or mucus discharge. No history of any mass protruding out from anal verge. Patient had history of multiple blood transfusions in last one month and was still pale. No history of any other medical co-morbidity. Family and personal history were non-significant.



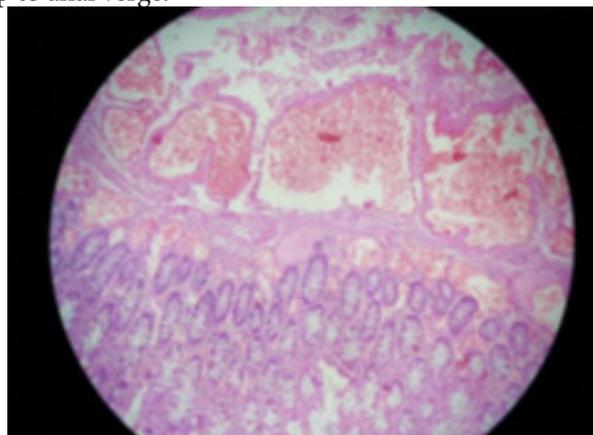
**Figure 1:** Vascular changes apparent from serosal surface with transition point at mid-transverse colon.

On digital rectal examination anus was boggy. Findings of DRE were confirmed by proctoscopy which showed congested anal and rectal mucosa with multiple hemorrhagic points. On colonoscopy vascular malformations were seen in the sub mucosa and mucosa with hyperemia from anal verge to transverse colon. On CT angiography irregular wall thickening is seen involving ano-rectum, sigmoid colon and descending colon with multiple tortuous vessels in the mucosal and sub mucosal regions and mucosal hyper enhancement. Tortuosity was extensive in rectum and sigmoid colon with inferior mesenteric vein connections. Patient was adequately resuscitated and prepared for surgery.



**Figure 2:** Resected specimen showing congested bowel including rectum and anal canal. On exploration vascular changes were quite visible on serosal

surface from anal canal extending proximally to colon with a demarcation line at transverse colon (Figure 1). These changes were more marked in rectum and sigmoid colon, where they were found to be loaded with tortuous vascular tuft (Figure 2). As disease was reaching to anal verge abdominoperineal resection was done, whole of the involved colon with rectum and anal canal was resected out with an end transverse colostomy. Biopsy of resected segment came to be angiodysplasia (Figure 3) with external surface showing dilation of multiple vascular channels in entire length up to anal verge.



**Figure 3:** Histopathology showing dilated vascular channels in high power field.

### Discussion

Angiodysplasia is an arterio-venous malformation of colonic mucosa and sub mucosa that is characterised by markedly dilated and tortuous submucosal veins with replacement of overlying mucosa by collection of thinwalled venules and capillaries. Literature suggests that the colon is one of the most frequent sites for of angiodysplasia [5,6]. Angiodysplasia of the colon was first reported as a hemangioma of the sigmoid colon in mid-nineties by Holman et al, and Marguillis, et al. [7,8].

Angiodysplasia of colon is recognized as an important cause of lower gastro-intestinal bleeding in the elderly [9]. However, it may occur anywhere in the gastro-intestinal tract, but most of the angiodysplasias are located at the cecum and right side of the colon [10]. A research on patients of Western countries shows that the involvement of angiodysplasia of the right colon is having huge proportion (54 - 81.9%) [11].

Though most angiodysplasias are detected in right side of the colon, it has been reported in left colon; however, these are very rare. One of the very first case reports on angiodysplasia of left colon was published in 1985 involving a 55 year old

Indian female, who had suffered from left body weakness [12]. Routine examinations were normal, but colonoscopy showed a small lesion on the left side of colon [12]. One more case study on angiodysplasia of left colon was presented in 2011 having a Nigerian male patient of 85 year age, who had left-sided abdominal pain, constipation, and weight loss with no symptoms of blood loss. Colonoscopy showed an area of dilated tortuous blood vessel in the wall of the descending colon approximately 45cm from the anal verge, with no features of bleeding, with no other abnormalities seen in the bowel mucosa [13].

The interesting thing in the case presented in this report is that angiodysplasia present in the left colon that was extending up to anal verge that too in a young patient of 25-year age. No case of this kind is reported in the literature till date. On colonoscopy vascular malformations were seen in the sub mucosa and mucosa with hyperemia from anal verge to transverse colon. In the present case, since disease was reaching to anal verge abdominoperineal resection (APR) was done, whole of the involved colon with rectum and anal canal was resected out with an end transverse colostomy.

Some cases of angiodysplasia may found in association with aortic stenosis, first diagnosed by Heyde et al. It was difficult to diagnose the site of the lesion in the past, blind right hemicolectomy was first performed by Catell et al, for lesion in ascending colon. Angiography and colonoscopy have made it easy to diagnose the exact site of the lesion and so as to treat it non-surgically by embolization and cauterization respectively. Failure of these methods requires surgical intervention.

### Conclusion

Angiodysplasia is degenerative vascular disease involving small vessels of the mucosa and sub mucosa of the right colon occur in old age. Usually these mucosal and sub mucosal vascular malformations in angiodysplasia are not visible from serosal surface but the case we explored angiodysplastic changes were visible from serosa and were involving the left colon up to anal verge in a young male which finally landed in abdominoperineal resection. Hence, while evaluating a young patient for lower gastrointestinal tract bleeding, possibility of angiodysplasia should also be kept in mind.

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