Editorial

BENIGN STRICTURES OF THE GASTROINTESTINAL TRACT

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Strictures of the gastrointestinal (GI) tract are usually considered surgical problems. However, some recent studies have shown that most strictures are caused by diseases that can be treated with drugs [1]. This brings them into the internist's ambit. Moreover, availability of therapeutic endoscopy has increased the physicians' involvement in providing non-surgical palliation.

The type of causative disease classifies a stricture into benign or malignant. Malignant strictures of the esophagus are seen more commonly in India and China (Asian esophageal carcinoma belt), while those of colon are seen more frequently in the western nations [2,3]. The incidence and etiology of benign strictures also varies according to the site of GI tract. Benign strictures of the foregut are common and distinctly different from the less common strictures of the mid and hind gut.

The commonest benign foregut stricture is that of the esophagus. It is commonly caused by corrosive ingestion [4], endoscopic sclerotherapy [5], gastro-esophageal reflux disease (GERD) [6], and 'pill' esophagitis (due to commonly used doxycycline and ciprofloxacin). About 80 per cent of caustic ingestion occur in young children accidentally, as strong alkalis or acids are often stored at home in food containers [4] and these strictures are preventable. Strictures are more likely to develop if lesions are circumferential [7]. Many patients undergoing endoscopic sclerotherapy and several patients with GERD will develop benign strictures [5,6]. Less often, radiation esophagitis, tubercular, fungal and viral esophagitis, systemic vasculitis such as Behcet's disease, skin lesions like dys-

trophic epidermolysis bullosa, graft versus host disease, and even prolonged naso-gastric tube usage can lead to stricture [8]. Most strictures can be dilated by Savary-Gillard dilators, which are now available at several gastroenterology centers of the Armed Forces. Successful dilatation relieves dysphagia and avoids major surgery. Another common benign foregut stricture, pyloric stenosis, seen in 2 per cent patients with peptic ulcer [9] can also be dilated with good results.

Midgut strictures are relatively less common and those of hindgut are distinctly rare. Abdominal tuberculosis (AT) is the single commonest cause of such strictures in India. A paper elsewhere in this journal underlines this fact [10]. Inflammatory bowel disease is the commonest cause of such strictures in the western countries. Due to similarity in presentation, it is often difficult to differentiate Crohn's disease (CD) from ileo-cecal tuberculosis [11-13]. AT is common among Asians and Africans, while CD occurs mostly in Jews and Europeans. Anal lesions, diarrhea and fistulae are more common with CD while intestinal obstruction is the main presentation of AT. Transversely oriented ulcers, short strictures (< 5 cm), and serosal nodules are the features of AT, while CD causes longitudinal serpiginous ulcers and long strictures [11-14]. Fibrous strictures should always raise the suspicion of malignancy.

Drug-induced ulcers and strictures of small and even large intestine are being increasingly recognized and resemble CD. Drugs such as non-steroidal anti-inflammatory drugs and enteric-coated potassium chloride are implicated [15,16].

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Ischaemic ileitis and colitis are a common cause of intestinal strictures. In a retrospective study, 75 per cent of chronic colitis starting after the age of 55 years was found to be ischaemic in origin [17]. It can also be seen with systemic vasculitis such as Behcet's disease, polyarthritis nodosa, systemic lupus erythematosus, rheumatoid arthritis, progressive systemic sclerosis, and essential mixed cryoglobulinaemia. Similar appearance can also be seen in vasculopathies associated with sickle cell disease, thrombotic thrombocytopenic purpura and drugs such as vasopressin, danazol, estrogen, and gold. Similarly, radiation enteritis is not an uncommon cause of benign stricture.

Granulomatous reaction to *E. histolytica* and eosinophilic granuloma related to worm infestations can also lead to ileal and ileo-cecal strictures [18,19]. AIDS patient are likely to have strictures caused by cytomegalovirus, *M. tuberculosis* or *M. avium intracellulare*. Lymphogranuloma venereum can mimic ulcerative colitis and may progress to single or multiple stricture formation. Amyloidosis and celiac disease may also rarely cause strictures. Trauma and surgery should always be kept in mind as potential causes of benign intestinal strictures [20].

Radiological narrowing (string sign) of the intestinal lumen does not always indicate a stricture as it may be due to spasm. Clinical features and evidence such as persistent proximal dilatation of the gut and mucosal abnormalities need to be considered. Failure to negotiate the endoscopic tip, can be taken as an evidence of significant narrowing. Most strictures can be prevented by early diagnosis and timely medical treatment. Tuberculous strictures tend to resolve with antituberculous drugs [1]. Stricturoplasty is required only in the minority of cases [10]. Aggressive endoscopists have already started using balloon dilatation for lower gut strictures but the final word has not yet been written in this regard.

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