SUMMARY

Although, the small bowel accounts for 75% of the gastrointestinal tract, and 90% of small bowel surface area, both benign and malignant small bowel tumors, are exceedingly unusual. It has been estimated that small bowel tumors constitute 1-4%of all gastrointestinal tumors. While malignant small bowel tumors represent on average 1% of all gastrointestinal malignancies.

There is a slightly higher icidence of small bowel tumors in males than females, and the usual age of diagnosis is between 50 and 60 years. The causes of small bowel malignancies are unknown, although many theories have been suggested.

Theories to explain the low incidence of small bowel tumors are numerous These include The alkalinity of small bowel content, The rapid transit of small bowel content, A high level of benzopyrene hydroxylase, Lack of bacteria in the small intestine as compared to other portions of the intestinal tract, The high concentration of immunoglobulin (Ig A) in the small intestine, Liquid content of the small intestine, and Increased cell turnover

There are several premalignant lesions such as familial adenomatous polyposis, Crohn's disease, celiac disease, Peutz-Jeghers syndrome, and Von Recklinghausen' s neurofibromatosis.

Small bowel tumors may be benign , malignant, or neurendocrine carcnoid tumors.

The most frequently encountered benign tumors of the small bowel are adenoma, benign gastrointestinal stromal tumors, and lipoma. Fibroma, and neurifibtomas are uncommon.Vascular tunors such as hemangiomas, and lymphangiomas are unusual.

Malignant tumors of the small bowel may be primary or secondary. The most common primary malignant tumors are adencarcinomas, malignant gastrointestinal stromal tumors, lymphoma, and other rare tumor types, such as Kaposi's sarcoma, seen primarily in patients with end-stage human immunodeficiency virus (HIV) infection.

Endocrine tumors of the gut, also known as carcinoid tumors, may present with their own set of classic symptoms, such as flushing, diarrhea, cyanosis, and intermittent respiratory distress. Only a small proportion of patients with carcinoid tumors have these symptoms, the vast majority being asymptomatic or having symptoms secondary to mass lesion effects.

In comparison with colorectal cancer, small bowel tumors are 30 times less frequent. If mortalities are compared, then colorectal tumors account for 50 times as much loss of life. Because of this rarity, the clinician must become familiar with the signs and symptoms of small bowel cancers.

Many small bowel tumors are asymptomatic until late in their course due to their relatively slow growth and the ease with which the contents of the small bowel can pass even a partially obstructing lesion.

Half of small bowel cancers are found only at autopsy. The remainder are usually found as a result of the symptoms of partial obstruction: nausea and vomiting if the lesion is proximal; crampy

abdominal pain; or other nonspecific findings such as weight loss. Hemorrhage is frequently found in those tumors that penetrate beyond the submucosa but almost always is occult, presenting as stool that is positive on guaiac testing and microcytic anemia.

Eventually, malignant tumors cause enough symptoms for the ensuing medical work-up to reveal the tumor. Unfortunately, some time may pass between the first symptom and diagnosis even for 8 years or more prior to definitive diagnosis. A more recent study demonstrated a median duration of symptoms of 8 months prior to diagnosis.

Many patients eventually diagnosed with small bowel tumors present as an emergency with either bowel obstruction or perforation.

The diagnosis of these lesions is usually accomplished with the aid of radiographic studies. Only 25% of patients present with a palpable mass; another 25% have the symptom of abdominal distention, secondary to obstruction.

Plain films of the abdomen are unlikely to be of use, except to demonstrate the presence of obstruction or perhaps displacement of the bowel by a mass. Contrast studies show about one half of these tumors, although, with retrospective readings, up to 75% of small bowel tumors can be found. Some studies have reported even higher rates of diagnosis by barium study.

More recently, duodenal tumors have been diagnosed using endoscopy, and the advent of computed tomographic (CT) scanning with oral contrast has led to nearly 100% recognition of small bowel tumors in some series.

Also, magnetic resonance imaging (MRI), and positron emission tomography are introduced.

Angiography and nuclear scanning may be useful in the case of a bleeding tumor or a suspected hemangioma.

The treatment of small bowel tumors is usually surgical, with simple resection for benign lesions and an aggressive approach for malignant lesions. Overall, the survival for adenocarcinomas, carcinoids, lymphomas, and malignant gastrointestinal stromal tumors of the small bowel is better than that for all other organs, except the breast, colon, prostate, and uterus.

Lymphadenectomy is usually not performed for malignant gastrointestinal stromal tumors due to its lack of lymphatic metastases. In rare cases, radiation or chemotherapy may precede surgery.

Duodenal tumors may require pancreaticoduodenectomy if malignant, whereas tumors of the terminal ileum may require right hemicolectomy to ensure complete resection and adequate margins.

Prognosis of small bowel adencarcinoma is generally poor, with sutvival is extremely poor for the majority of patients. The prognosis for malignant gastrointestinal stomal tumors and primary lymphomas is good if the lesion can be entirely removed by surgical resection. Patients with malignant carcinoid tumors may survive for long periods, even after extensive metastases.