

# SHORT BOWEL SYNDROME

## Definition

- Normal length of small bowel 600cm (260-800cm)
- Short Bowel Syndrome (SBS) might be expressed when less than 200cm of SB are left.
- The short-bowel syndrome is a disorder clinically defined by malabsorption, diarrhea, fluid and electrolyte disturbances, and malnutrition.
- In the UK (90) 2 patients per million, in the US (95) 10,000-20,000 patients on TPN due to SBS.

## Etiology

- Extensive intestinal resection secondary to:
  - IBD (CD>UC).
  - Trauma.
  - Mesenteric infarction.
  - Radiation enteritis
  - Congenital atresia, malrotation, gastroschisis.

## Pathophysiology

- Loss of absorptive area > malabsorption of nutrients, water and electrolytes.
- Degree of malabsorption is determined by length of bowel remained and the adaptive process within time.
- Different nutrients are absorbed in different anatomical locations.
- Almost 90% of the digestion and absorption are performed in the first 100cm. Hence patients left with this segment can tolerate oral feeding.
- Ileo-cecal valve.

## Intestinal adaptation

- Mediated by growth factors – GLP 2 and I Glutamine.
- Ileum > Jejunum.
- Within time there is increase in ileal diameter and length.
- Ileal villi (short) and crypts (shallow) attain jejunal characteristics.
- The adaptation is content mediated.

## Management

- Evaluate volume and electrolyte status.
- TPN.
- vitamin B<sub>12</sub> and multi-vitamin supplement.
- Nutritional evaluation.
- Low fat, high carbohydrate diet, elemental diet.
- Anti-diarrheal drugs.

## Surgical options

- Non transplant: bowel lengthening (Bianchi), artificial valves, reversed segments.
- Transplant – SB +/- OLT.

## References

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