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Majumdar, NK Ganguly. Department of Experimental Medicine and Biotechnology, PDMER, Chandigarh

Cholera is an emerging and reemerging infectious disease. It still remains a major public health problem in most of the developing countries. Epidemiological surveillance of cholera and comparative molecular analysis of strains collected during outbreaks have shown clonal diversity among epidemic strains and a continual emergence of new clones of toxigenic strains. The massive dehydrating diarrhea, characteristic of chola, is actually induced by cholera toxin or CT.

Recently, a toxin from V. cholerae W07 has been purified in our laboratory. Southern hybridization studies with known CT probes have shown the absence of ctx gene in this strain. We are carrying out further work on this novel non-CT toxin.

Objective: Characterization of a novel toxin from V. cholerae W07.

Methods: The toxin from V. cholerae W07 has been purified from the culture supernatant by a combination of affinity chromatography and gel filtration chromatography. The purified toxin was found to be an aggregate polymer of two subunits of My 58 kDa and 40 kDa. The binding subunit of the purified toxin has been identified in Western blot with HRP fetuin and the sequencing of the binding subunit done.

Antibodies against the purified toxin was raised in rabbit and the IgG from this antisera was separated. The antitoxin IgG titre was determined by ELISA. The effect of different glycoconjugates on binding of the purified toxin to IgG was also studied.

Result: PAGE of the purified toxin revealed a single band. The HRP labeled fetuin was able to detect the lower band on the Western blot, i.e. the 40 kDa subunit. The ELISA titre of antitoxin IgG was found to be 1:50,000. Also, the binding of the antibody to the purified toxin was found to be inhibited in the presence of fetuin and thyroglobulin.

Conclusion: The 40 kDa subunit of the toxin (non-CT) from the V. cholerae W07 is the binding subunit of the toxin. There is an overlap of the antibody binding site and the sugar binding site in the toxin molecule. Further study of the epitope(s) will be helpful in designing inhibitor(s) to prevent establishment of the infection.

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Hormonal therapy for control of bleeding GI angiodysplasias. CE Eappen, SC Samal, George Chandy, George Kurian. Department of GI Sciences, CMCH, Vellore

Background & Aim: Combination of estrogen and progesterone or Danazol (a weak androgen) has been suggested for treatment of bleeding GI angiodysplasias. We retrospectively analysed our experience with this therapy.

Materials & Methods: Over the past 4 years, 8 patients with bleeding GI angiodysplasias managed in our unit were treated with hormonal therapy. Age: mean 46 years (range 14-70 years); 4 females. 1 patient had hereditary hemorrhagic telangiectasia (HHT). Angiodysplasias were diagnosed by endoscopy at the following sites: colon alone (4 patients); small bowel alone (1 patient); small bowel and colon (1 patient); stomach alone (1 patient) and stomach, small bowel and colon (1 patient).

6 patients received ethinyl estradiol 0.05 mg and norethisterone 1 mg once daily; the patient with HHT did not respond adequately to this therapy and was switched...
onto Danazol 100 mg twice daily; 1 patient was given Danazol. All patients were also given oral iron supplements. Mean length of follow up on this treatment was 19 months.

**Results:** All patients had dramatic cessation of overt GI bleeding with hormonal therapy.

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<thead>
<tr>
<th>Pre-hormonal therapy</th>
<th>On hormonal therapy</th>
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<tr>
<td>Blood transfusion requirement</td>
<td>Mean=4 units (range=0-10)</td>
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<tr>
<td>Hemoglobin (gm%)</td>
<td>Mean=8 (4.2-13.4)</td>
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**Conclusions:** Hormonal therapy appears to be an effective modality to control bleeding GI angiodysplasias. Danazol may be tried as initial therapy in male patients (to avoid feminising side effects of estrogen/progesterone combination).

**B-93**

**Transabdominal sonography in the diagnosis of gut lesions - critical analysis in 50 cases. K Venkateswarlu, Department of Gastroenterology, Kurnool Medical College, Kurnool, AP 518 002**

**Background:** Transabdominal sonography (TAS) has been underrepresented to study solid and cystic organs due to the fact that gut is a collapsed gas containing tubular structure surrounded by air containing bowel loops. Moreover there is no sonic window to study. Thus normal gut is a poor structure for TAS. My hypothesis is that gut in health no doubt is a poor structure for US study but when it is diseased it is a good organ for TAS.

**Aim:** To critically evaluate the above hypothesis.

**Methods:** 20 patients with gastric lesions, 10 patients with small bowel pathology and 15 patients with large bowel pathology and 5 patients with appendicular pathology were enrolled. The lesions comprise inflammatory, vascular either ischemic or congestive, infective and neoplastic. These lesions were scanned by Toshiba SSH 140 A colour doppler scan and compared with the standard endoscopic and radiological examinations.

**Results:** All the above lesions documented by endoscopy and barium studies are also clearly seen in TAS. In inflammatory and congestive lesions wall thickness is increased due to edema above 5 mm. In addition the layer pattern so called gut signature is well preserved. In malignancy gut signature is lost and the thickness is irregularly increased above 5 mm. Colour flow mapping provides inflammation in the form of increased vascularity and ischemia and impending gangrene in the form of decreased vascularity.

**B-94**

**Short term enteral nutrition supplementation in hospitalised patients. Namrata Singh, Shyam Prakash, Nandini Saxena, YK Joshi, RK Tandon, Department of Gastroenterology and Human Nutrition, All India institute of Medical Sciences, New Delhi**

**Background:** Enteral nutrition (EN) supplements have been found to be effective in hospitalized patients as it helps in early recovery and shortens hospital stay.

**Aim:** To see the effect of short term enteral nutrition supplementation in patients requiring it in various GI disorders.

**Methods:** Anthropometry and biochemical markers were monitored at the time of admission and repeated after supplementation. Anthropometry included height, weight, body mass index (BMI), usual body weight (UBW), % deviation from UBW, triceps skin fold thickness (TSF) and mid upper arm circumference (MUAC). The acute phase proteins i.e. C-reactive protein (CRP), serum prealbumin and transferrin were estimated before and after supplementation. They have a short half life and are expected to demonstrate the effect of short term nutrition supplementation.

**Results:** A total of 63 patients (11 ulcerative colitis, 13 acute pancreatitis, 25 chronic liver disease, 14 other GI disorders) admitted in the Gastroenterology ward of AIIMS were included in the study. Only those patients were included who were not eating sufficiently to fulfill their nutrient requirement. All had clinical and biochemical evidence of malnutrition as seen by low weight and decreased albumin levels. Patients were provided commercially available products providing extra 1000-1500 Kcal in addition to their inadequate intake. The mean calorie and protein intake was 1500±491 Kcal, 50±17 g, respectively. The mean duration of supplementation was 9.8±4.8 days. 80% of patients were able to take the feed orally, the rest were fed by a nasogastric tube or a jejunostomy. Patients tolerated the feed well without significant side effects except a few who complained of cramps and bloating. This effect could be attributed to the ascites and distention present in these patients. Result revealed that there was no change in weight and anthropometric measurements. The acute phase proteins showed a change. Albumin levels increased marginally from 2.64±0.7 to 2.9±0.325 gm%. Prealbumin (9.8±6.8 to 17.8±9.4 mg%) and transferrin (104.7±39.9 to 170.2±325 mg%) levels increased. CRP levels (1.2±0.42 to 0.88±0.30 mg%) fell in all the subgroup of patients.

**Conclusion:** Our short term enteral nutrition supplementation study in hospitalised patients showed an improvement in biochemical indices of nutritional status i.e. prealbumin and transferrin. Full in levels of CRP suggested an improvement in clinical condition of the patients.

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A prospective randomised comparative study of efficacy of Nd:YAG laser photoacoagulation vs. adrenaline injection in controlling recent non-variceal upper