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**CARNITINE LEVELS IN COLON, MUSCLE AND SERUM OF RATS WITH EXPERIMENTAL COLITIS**

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***Background & Aims***. The lack of carnitine impairs the ability to use fats as fuel during periods of fasting or stress. Reduced carnitine in tissue and plasma may be caused by insufficient carnitine uptake activity in the intestinal tract and/or impaired reabsorption in the kidney, respectively. In the present study we have evaluated the effect of colitis on the carnitine system in a rat model. ***Methods***. Different degrees of colitis were obtained in 2 groups of 5 male Wistar rats by rectal administration of 10 or 20 mg trinitrobenzensulfonic acid (TNB) in 50% ethanol and animals were sacrificed one week later. Five normal rats were used as controls. The levels of free carnitine (LC) and acetil carnitine (ALC) in colon, muscle and serum were evaluated by a mass-spectrometer technique. The carnitine translocase was also assessed by Western Blot. ***Results***. LC and ALC were decreased in colon of colitic rats; LC levels correlated with the degree of damage ($r=0.77$, $p<0.01$). Accordingly, carnitine traslocase protein levels were diminished in rats with colitis and also correlated with the degree of tissue damage ($r=0.68$, $p<0.01$). Carnitine also decreased in both muscle and serum

| | COLON | | MUSCLE | | SERUM | |
|---|---|---|---|---|---|---|
| | LC | ALC | LC | ALC | LC | ALC |
| Normal rats | 33.8±8.8 | 6.7±3.1 | 13.5±3.6 | 4.7±1.1 | 49.2±9.1 | 27.9±5.5 |
| TNB 10mg | 12.4±2.4* | 2.9±1.1* | 9.2±1.7* | 4.3±0.7 | 51.4±8.5 | 27.8±5.8 |
| TNB 20mg | 9.7±4.2* | 2.7±1.3* | 6.7±1.1* | 2.7±0.6* | 36.5±5.5* | 17.7±6.3* |

ANOVA, Newman Keuls post-hoc analysis, * $p<0.05$ vc normal rats

***Conclusions***. Our study describes for the first time the decrease of carnitine (as free and acetyl-carnitine) in the inflammed intestinal epithelium that is well correlated to the degree of colitis. The intestinal damage is also able to induce a systemic secondary deficiency of carnitine. These results indicate that carnitine may play a role in the damage/repair process suggesting its potential use in colitis.

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POUCH SURGERY: OUTCOME IN PATIENTS WITH ULCERATIVE COLITIS

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**Background**: Restorative proctocolectomy with ileal pouch-anal anastomosis (IPAA) has become the procedure of choice for the definitive surgical management of ulcerative colitis (UC). Functional results have generally been acceptable. The aim of this retrospective study is to evaluate the clinical and functional results of patients with ileal pouch operated on over a 6-year period at the Second University of Naples. **Methods**: Sixty seven patients, M:29, mean age 33 (r.: 13-69) underwent IPAA. Three different designs of reservoir were used (J: 27, S:1, W: 39). A temporary diverting loop ileostomy was constructed in all patients and closed in 62 (J: 25, S:1, W: 36). Clinical and functional results were assessed in all patients with a follow-up ranged from 1-71 months. **Results**: There were no postoperative deaths but 3 patients (4.5%) had the reservoir removed. Rates of pelvic sepsis was 7.4% (5 patients) with 2 (2.9%) anastomotic dehiscence in patients with stapled ileoanal anastomosis and 1 (1.5%) dehiscence in those with manual ileoanal anastomosis. One (1.5%) patient underwent a pouch salvage operation. There were 6 ileoanal anastomosis stricture, 2 (2.9%) in patients with stapled anastomosis and 4 (5.9%) in those with manual anastomosis. No patients had a small bowel obstruction before ileostomy closure and 3 patients (4.8%) had a small bowel obstruction after ileostomy closure medically managed. There were 5 patients with pouchitis (8%) treated with metronidazole. Functional results were assessed in all 62 patients with ileostomy closure. Frequency of defecation per 24/h was 3.7 (r.: 2-9). There were eleven patients (17.7%) with nocturnal defecation. Nine patients (14.5%) suffer from nocturnal mucosal leakage and 5 patients (8%) had diurnal mucosal leakage. No patients had faecal leakage. Ten patients (16.1%) used loperamide. No patients had sexual dysfunction. **Conclusions**: Restorative proctocolectomy in our experience is a feasible operation for the surgical treatment of ulcerative colitis with an acceptable morbidity and good functional results.

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PREVALENCE OF CYTOMEGALOVIRUS (CMV) INFECTION IN SEVERE REFRACTORY IBD COLITIS.

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**Background:** CMV infection has been reported as cause of refractory Inflammatory Bowel Disease (IBD) but no data are available on its prevalence.

**Aim:** To evaluate the prevalence and the outcome of CMV infection in a consecutive series of severe colitis with refractory disease admitted at our department from 1997 to 1999.

**Patients and Methods:** Among 60 patients with severe colitis, 53 Ulcerative colitis (UC) and 7 Crohn's disease (CD), admitted to our department from 1997 to 1999, 18 (30%) were resistant to intravenous steroids and bowel rest. In all of them the CMV was searched in the rectal biopsy (rectoscopy performed without air insufflation and limited to the first 10 cm). Buffy coat preparation on leucocytes was also performed to detect systemic infection. If CMV was not detected cyclosporine was started.

**Results:** In seven (5 with UC and 2 with CD) out of 18 (39%) patients with refractory disease, CMV was diagnosed in the rectal specimens as well as by buffy coat preparation. Four of them had been received long-term treatment with corticosteroids (20 mg day for at least 3 months ) and 3 with azathioprine. Five patients went on remission after antiviral treatment (3 with Ganciclovir and 2 with Foscarnet). Two patients did not respond and were operated on.

**Conclusions:** CMV infection is a frequent cause of refractory severe colitis. Rectal biopsy should always be performed in severe resistant colitis.

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LOW DOSAGE OF INTRAVENOUS CYCLOSPORINE IN THE TREATMENT OF SEVERE ULCERATIVE COLITIS.

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**Background:** the use of i.v. cyclosporine (Cys) at dosage of 4 mg/Kg/die in patients with steroid resistant Ulcerative Colitis (UC) is controversial because of variability of results.

**Aims:** to verify the effectiveness and the safety of a 2 mg/Kg/die dose of i.v. Cys in patients with steroid resistant UC and to evaluate azathioprine (AZA) versus oral Cys for maintaining treatment.

**Patients and methods:** 24 patients admitted to our Department from 1993 with an acute attack of severe UC, not responding to high doses of i.v. steroid for at least 7 days, received continuous i.v. Cys at dosage of 2 mg/Kg/die for 15 days. Two patients repeated the treatment after a second relapse (26 treatments) Mean age was 34.8 years and mean duration of disease was 43.5 months. In 6 pts. it was the first attack. All patients were screened for bacterial infections, cytomegalovirus in rectal biopsies, presence of toxic megacolon. Mean follow-up was 20.5 months. Oral Cys was continued as maintenance treatment for 6 months in the first 7 pts, whereas AZA was given in the last 10 pts. One patient refused immunosuppressive therapy.

**Results:** remission was obtained in 22 treatments (84%) in a mean time of 6.5 days. 4 pts did not respond and were operated on. Two responder pts were operated on soon after remission in election. 5 out of 7 pts (71.4%) in remission with oral Cys and 2 out of 10 pts (20%) in remission with AZA were operated on within 24 months. Severe side effects (colestatic hepatitis) were observed in 2 patients (both operated on). Mild side effects (fungal infection) were observed in two pts.

**Conclusions:** 2 mg/Kg/die of Cys is highly effective with few side effects in inducing remission if accurate selection of patients is made. Maintaining treatment with AZA seems more effective than oral Cys.