

PROLONGED MALNUTRITION IN HEMODIALYSIS PATIENTS DUE TO CLOSTRIDIUM DIFFICILE INFECTION

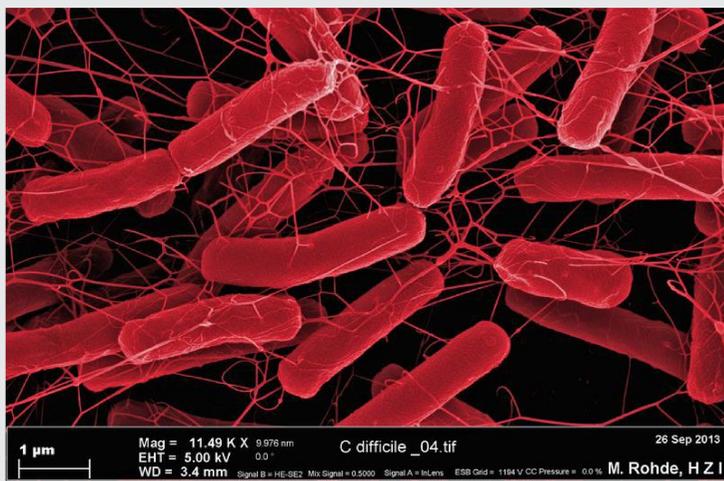
Judit Borbély, Tamás Szabó
B. Braun Avitum Hungary, Dialysis Center 14, Kistarcsa

BACKGROUND

Clostridium Difficile (C.Diff.) is a Gram positive bacterium with exotoxin producing capability. It can be found in the stool of healthy individuals as well.

Over the last decade Clostridium Difficile infection have occurred more often secondary to antibiotic therapy. C.Diff. infection can result in a life threatening condition via continuous diarrhea secondary to pseudo-membranous colitis.

The infection can be more serious in dialysis patients who have an impaired immune defense system due to their chronic disease, their erythropoiesis is also impaired and nutrition is always difficult to maintain due to dietary restrictions.



RESULTS

During that 1 year period, 5 of our 126 patients in the chronic hemodialysis program suffered C.Diff infection. The acute phase of the infection was usually prolonged with relapsing diarrhea.

The decrease of serum albumin level was 33% on average, and it showed a rapid decline over the first 4 weeks. As the acute phase of the infection was cured, albumin level started to increase and reached an acceptable level by week 10. (graph 1).

There was a significant decrease in Hgb level as well. By week 8 the average decrease was 23% and they required 2600IU/week increase in EPO dose on average to recover Hgb levels. None of the patients required transfusion. (graph 2).

The average weight loss was almost 10%, and we could see a continuous decrease during the first 10 weeks. It took them about 5 to 7 more months to regain their bodyweight. (graph 3).

We lost 1 of the 5 patients with CDI as her immune system was even more compromised due to multiple myeloma.

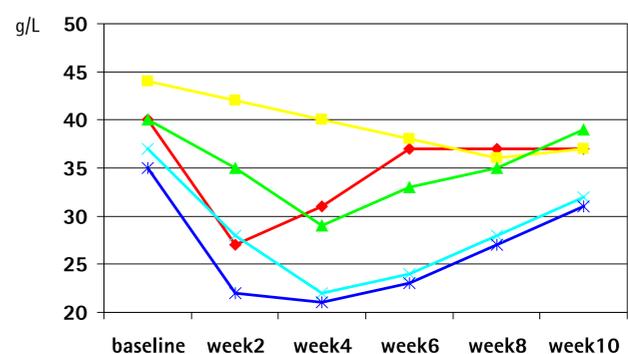
TREATMENT AND PREVENTION

The most important is the timely diagnosis of CDI in case of diarrhea of the dialysed patient. In our patients, treatment of CDI proved to be effective if metronidazole and po. vancomycin were administered in combination. Appropriate volume replacement and intravenous nutrition may be needed during the acute phase of the infection. Patient with CDI should be treated in isolation in order to prevent further contamination in the dialysis unit.

OBJECTIVE, METHODS

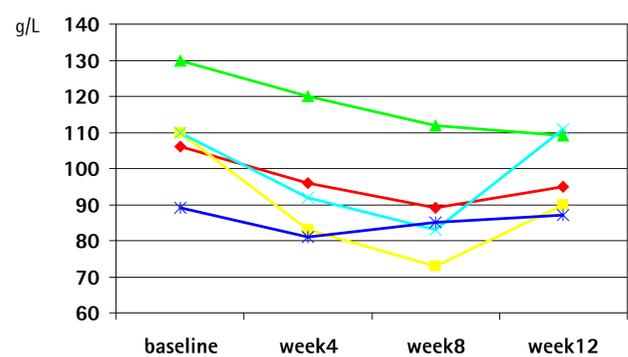
We collected data on patients at our dialysis unit who suffered C.Diff infection between Sept.2014 and Sept.2015. We identified 5 patients with CDI, all these cases occurred during hospitalization and were unrelated events. Nutrition parameters were followed for 12 weeks following the onset of the infection and compared to the values just prior the infection.

1. Decrease in serum albumin levels during CDI



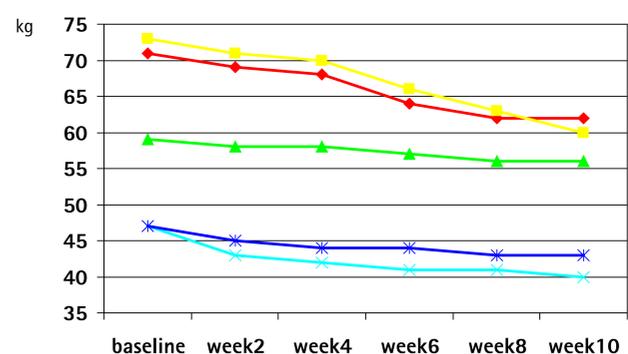
Serum albumin level has dropped by 25 to 38% over the first 4 weeks. At week 10 it has recovered to approximately 90% of baseline .

2. Change in serum Hgb levels during CDI



Hgb levels decreased by 10 to 30% by week 8. EPO dose was increased by 2600IU/week on average to recover Hgb levels.

3. Change in body weight during CDI



Weight loss was between 5 and 18% and it was continuous in the first 10 weeks although acute phase of the CDI was cured in 23 weeks.

CONCLUSION

The most important is the prevention of the infection although it usually occurs at inpatient wards. Once C.Diff. is acquired adequate antibiotic therapy is necessary to eliminate the enteric pathogens. Having the infection eliminated the most important task is rehydration and achieving positive protein balance in order to improve and restore the nutritional state of the patient as soon as possible.