In the cumulative dose 60 g of IVIG the number of platelets increased to 30 G/L and the bleeding disappeared. We decided to finish the treatment increasing number of platelets to 50 G/L.

Conclusion: The use of intravenous immunoglobulins in immunosuppressive doses is indicated in patients with thrombocytopenia associated with platelet associated autoantibodies and resistant to conventional treatment. Several mechanisms of action have been suggested for the therapeutic action of IVIG.

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Nosocomial Bacteremia Related to Central Venous Catheter (CVC) in Intensive Care Unit (ICU), Services of Surgery and Medicine

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Background: Currently, the colocation of a central venous catheter (CVC), is an essential procedure in the medical care and it implies a significant risk of morbidity and mortality for all the patients. Primary nosocomial bacteremia (PNB) is the principal infectious complication, it increase the days of hospitalization, costs and put in risk the life of the patient.

Objective: To determine the frequency of Nosocomial Bacteremia related to the use of CVC in patients of the Intensive Care Unit, Surgery and Medicine wards.

Methods: From March to September 2005 a descriptive and prospective study was made in patients who carried CVC, hospitalized in ICU and wards of surgery and medicine in the “Ruiz y Páez” University Hospital of Bolivar City, Venezuela. 37 patients were studied using the Macki’s technique for the microbiological diagnosis.

Results: The frequency of PNB related to CVC was 35.13% (13/37) (χ² = 3.97, P > 0.05). It was more frequent in ICU patients 61.53% (8/13) (χ² = 25.77, P < 0.001), in medicine services 35.45% (5/13), there was not any case reported in surgery wards. The Gram-positive cocci were the principal etiological agents 62.41% (10/16). The identified microorganisms were Staphylococcus aureus in 3/16, Staphylococcus haemolyticus 3/16, Pseudomonas aeruginosa 3/16, Staphylococcus epidermidis 2/16, and Staphylococcus warneri 2/16 (χ² = 4.00; P > 0.05). The identified factors of risk were: duration of CVC greater than 4 days, presence of previous infection to the entrance site of catheter, difficult insertion of the CVC, previous invasive procedures and severity of underlying disease or associate. The prolonged maintenance of the CVC was the more important factor 27.02% (10/37) (χ² = 4.25, P > 0.05). The more frequently observed complications were: prolonged hospitalization in 53.87% (7/13), increase of costs 53.87% (7/13) and increase of morbidity 23.07% (3/13) (χ² = 8.18; P < 0.05). There was no mortality in patients with PNB related to CVC.

Conclusions: It was demonstrated that in ICU the frequency of PNB related to CVC was greater than in the surgical and medical wards. The Macki’s technique was used in this study, by being simple in its application, less expensive and reliable.

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Therapeutic Drug Monitoring (TDM) in Adult Patients Receiving Imipenem (IMP) or Ceferpine (CEF) Therapy: One-Year Single-Center Experience

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Background: Experimental evidence suggests that time of beta-lactam antibiotics blood levels above MIC is a key factor for treatment efficacy. Low levels may be associated with treatment failure, while high levels may increase toxicity, especially in patients with impaired renal function.

Objective: To report the experience with TDM in adult patients receiving IMP or CEF therapy.

Methods: Retrospective analysis of consecutive IMP or CEF TDM during a 1-year period. Initial drug dosing was based on standard recommendations. IMP or CEF trough blood levels (C_min) were measured by HPLC. Interpretation of C_min as appropriate (A), inappropriate low (L) or inappropriate high (H) was based on MIC (when available), clinical and microbiological response, renal function, and drug blood levels reported in clinical studies. For L or H drug levels, interventions were proposed.

Results: 56 drug levels were measured (IMP, n = 30; CEF, n = 26) in 29 hemato-oncology, 11 intensive care, and 16 other adult patients. Treatment indications were microbiologically (27) or clinically (7) documented infections or unexplained fever (21). Daily dosing ranged from 500 to 4000 mg (IMP) and 500 to 6000 mg (CEF). TDM was performed 4 days (median, range 1–25) after treatment initiation: C_min ranged from 0 to 13 (IMP) and 0.7 to 61 mg/L.
Interventions in patients with L IMP levels (range 0–1.5 mg/L) were: prolongation perfusion time (n = 1), increase daily dosing (n = 8), repetition TDM (n = 1) or change antibiotic (n = 1). All patients with H CEF levels (range 5–61 mg/L) had impaired renal function (creatinine clearance <70 ml/min). To prevent toxicity daily dose was decreased (n = 5) or antibiotic was changed (n = 1); no data (n = 2).

Conclusions: Inter-individual variability of IMP or CEF blood levels is large. Low or high drug levels were observed in a high proportion of patients suggesting that TDM may help to ensure that dosing of antibiotic therapy is appropriate. Prospective studies are needed to confirm the clinical utility of TDM.

Patients had a mean burn area of 41% of their body surface and the combined characteristics of the patients did not differ between the supplemented and placebo groups.

Results: Supplementation significantly enhanced plasma contents in trace element and antioxidative capacity as assessed by the normalization of plasma selenium, zinc and glutathione peroxidase concentrations. This was associated with a significant reduction of infectious complications: total mean episodes of infections per patient decreased from 3.5±1.2 to 2.0±1.0 episodes, in placebo and supplemented groups respectively (p<0.001). This was related to a reduction of nosocomial pneumonia from 16 to 7 episodes respectively (p<0.001), and of ventilator-associated pneumonia from 48 to 13 episodes/1000 ventilator-days respectively (p=0.023).

Conclusion: We conclude that enhancing trace element status and antioxidant capacity by selenium, zinc and copper supplementation prevents nosocomial pneumonia in critically ill severely burned patients.

### Prevention of Nosocomial Pneumonia in Critically Ill Burn Patients by Trace Element Supplementation

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Background: Nosocomial pneumonia is a major source of morbidity and mortality after severe burns. Burned patients suffer trace element deficiencies and decreased antioxidant capacity, which may be restored by trace element supplementation.

Objectives: Our purpose was to determine the effect of trace element supplementation on pneumonia.

Methods: We combined data collected in two consecutive, randomized double-blinded, supplementation studies including two homogeneous groups of 20 and 21 severely burned patients, respectively.

Survey of Anti Candidial Effects of Neutrophils in Thermal Burns by In Vitro Methods

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Background: Neutrophil cell depletion is often the most important factor predisposing the burned patient to fungal infection. Post burn impairment of PMN cells activity as a result of intrinsic defect or alternation in opsonic activity serum has been reported.

Objective: Purpose of this survey was candidiacidal activity of neutrophil from burned patient.

Methods: In this study the candidiacidal activity of neutrophils from 30 patients with second- and third-degree burns and 30 age-matched healthy persons was compared using MTT assay for determination of fungal viability. Candida specimens were prepared by serial passage of a standard species on sabourad dextros agar (SAD). Yeast were grown overnight in yeast nitrogen base broth (YNBA). When using for experiment the viability of all specimens was more than 95%. Neutrophils were obtained from whole blood by dextran sedimentation followed by ficoll separation. The neutrophils of patients and healthy controls were cultured and healthy and patient serum was added as opsonins after an hour of incubation with candida sample, neutrophils were lysed by addition of dextrichotic