# *Publications Template*

| # | Research Title | Field | Abstract | Year of Publication Publishing | Publishing Link "URL" |
|---|---|---|---|---|---|
| **1** | Effect of intrathecal Bupivacaine–Lidocaine combination on motor block and analgesia period | Clinical pharmacy | **Objective**<br>To assess the effect of intrathecal Bupivacain–Lidocaine combination at different doses of Lidocaine (6 and 12 mg) on the onset and recovery of anesthesia.<br>**Methods**<br>Ninety patients who were scheduled for elective lower abdominal surgery were randomly allocated into three equal groups: Group I; 30 patients received 1.5 mL hyperbaric 0.5% Bupivacaine + 0.6 mL saline. Group II; 30 patients received 1.5 mL hyperbaric 0.5% Bupivacaine + 0.6 mL 1% Lidocaine [6 mg] mixed. Group III; 30 patients received 1.5 mL hyperbaric | 2012 | https://doi.org/10.1016/j.bfopcu.2012.03.001 |

| | | | | | |
|---|---|---|---|---|---|
| | | | 0.5% Bupivacaine + 0.6 mL 2% Lidocaine [12 mg]. Peak sensory block level, time to peak sensory block, times to two-segment, S2 regressions from peak sensory block, motor blocks at peak sensory block and total motor block duration, post anesthesia care unit stay time and analgesia time were measured.<br>**Results**<br>The median height of peak sensory block in Group III was higher than in Group I or II. Times to two-segment and S2 regressions from peak sensory block, motor block duration and PACU time were significantly reduced in Group II compared to Group I and III. No patient required general anesthesia. No patients experienced postdural puncture headache or TNS.<br>**Conclusions**<br>Lidocaine 1% (6 mg) mixed to spinal 1.5 mL hyperbaric | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 0.5% Bupivacaine (7.5 mg) can shorten the duration of Bupivacaine spinal anesthesia, provide more rapid recovery from the spinal anesthesia compared to the same dose of 0.5% Bupivacaine (7.5 mg) alone or the same dose of 0.5% Bupivacaine (7.5 mg) mixed with 0.6 mL 2% Lidocaine (12 mg). | | |
| **2** | The clinical outcome of simvastatin plus standard therapy versus standard therapy alone in critically ill septic patients: Randomized controlled clinical trial | Clinical pharmacy | Background: Statin therapy during Intensive Care Unit (ICU) stay has been associated with a reduction in all-cause hospital mortality in some studies. This association was especially noted in septic patients. However, potential benefit needs to be validated in randomized, controlled trials. Objective: The purpose of this study was to compare the effect of simvastatin plus standard therapy on mortality and total ICU Length Of Stay | 2016 | https://dialnet.unirioja.es/servlet/articulo?codigo=5779444 |

| | | | | | |
|---|---|---|---|---|---|
| | | | (LOS) to that of standard therapy alone in critically ill septic patients.<br>Method: A prospective randomized, open-label, controlled pilot clinical trial was conducted on patients diagnosed with sepsis/severe sepsis as defined by the American College of Chest Physicians (ACCP). Hundred patients met the study criteria and were randomized into two groups; a standard group who received standard treatment and simvastatin group who received the standard treatment plus 40 mg simvastatin. Primary outcomes were 28 days ICU mortality and total ICU LOS. Plasma C-Reactive Protein (CRP), total Creatine Kinase (CK) and liver enzymes [alanine aminotransferase (ALT) and aspartate aminotransferase (AST)] were measured as secondary outcome measures. | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Results: A total of 72 patients completed the study. Simvastatin was well tolerated, with no increase in adverse events between the two groups. Total ICU LOS was significantly lower in the simvastatin group. However, the number of patients with 28 days ICU mortality in the simvastatin group was lower compared to standard group; but survival failed to reach statistical significance. Similarly, plasma C-reactive protein failed to reach statistical significance between the two groups. Conclusions: Treatment with simvastatin 40 mg in patients with sepsis/severe sepsis is safe and associated with an improvement in number of deaths and ICU LOS but without subsequent improvement in survival | | |

| | | | | | |
|---|---|---|---|---|---|
| **3** | The clinical outcome of simvastatin plus standard therapy versus standard therapy alone in critically ill septic patients: randomized controlled clinical trial | Clinical pharmacy | Previous abstract | 2016 | Velasquez, T., Mackey, G., Lusk, J. *et al.* ESICM LIVES 2016: part three. *ICMx* **4,** 28 (2016). https://doi.org/10.1186/s40635-016-0100-7 |
| **4** | Future of statins in sepsis: a review on its safety and efficacy | Clinical pharmacy | Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection. Statins [Hydroxymethylglutaryl-CoA reductase inhibitors] not only lower cholesterol levels but also have been proposed as adjunctive therapy in sepsis due to their pleiotropic effects. They act on several stages in sepsis: the generation of proinflammatory cytokines, modulation of leukocyte and monocyte functions, and reduction of oxidative stress as well as improvement in | 2020 | https://dx.doi.org/10.21608/APS.2020.2001.1022 |

| | | | | | |
|---|---|---|---|---|---|
| | | | endothelial function and platelet activity. However, it has been argued if the observed beneficial effect of statins in sepsis is related to preadmission or post-admission use of statins. Also, the positive impact of statins on the clinical outcome of patients with sepsis has shown conflicting results. Accordingly, this review will discuss recent evidence regarding the use of statins in sepsis. Also, adequate use of statins based on the right drug, at the right time, at the right dose and in the right population will be discussed. The information in this review shows that the effect of statins is a drug, not a class effect, with the most effective drug in sepsis being simvastatin. Besides, it highlights the importance of proper timing and dosing of statins to manifest their antibacterial and pleiotropic | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | effects. Finally, the effect of statins in sepsis is restricted to early phases of sepsis or sepsis prevention, not sepsis complicated with organ dysfunction or septic shock. However, more *in vivo* and clinical trials are required to determine the final decision about statin use in sepsis. | | |
| **5** | COST-EFFECTIVE ANALYSIS FOR SIMVASTATIN PLUS STANDARD THERAPY VERSUS STANDARD THERAPY ALONE IN CRITICALLY ILL SEPTIC PATIENTS | Clinical pharmacy | **Objectives**<br>Assessment of the cost effectiveness of oral simvastatin plus standard therapy versus standard therapy alone in critically ill septic patients<br>**Methods**<br>This was a multi-center, randomized, open label, controlled clinical trial. A total of 145 critically ill patients were randomized, 80 received standard therapy according to Surviving Sepsis Campaign Guidelines 2013 and 65 received simvastatin plus standard therapy. The economic | 2019 | http://dx.doi.org/10.1016/j.jval.2019.04.1832 |

| | | | | | |
|---|---|---|---|---|---|
| | | | analysis was planned as cost-effectiveness analysis. Only direct medical and non-medical costs were incurred. The primary outcome assessed was the number of survived patients. Per protocol analysis was maintained throughout the analysis.<br>**Results**<br>The clinical findings reported that simvastatin significantly decreased the intensive care unit length of stay (ICU LOS). At 3 months, 52 patients died in the standard group and 35 in the simvastatin group. No death was recorded at 6 and 12 months. Mortality was lower in the simvastatin group compared to the standard group at 12 months, although this was not significant (p=0.15). Total direct medical and non-medical costs were lower in simvastatin group compared | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | to standard group, indicating that the statin therapy is the dominant treatment option. The cost-saving results of simvastatin were largely driven by saving in cost of the ICU LOS and medications in the ICU. The incremental cost-effectiveness ratio (ICER) was negative and therefore was not calculated.<br>**Conclusions**<br>This study provides novel preliminary evidence that simvastatin plus standard therapy is likely to be less costly and more effective in term of survival compared to standard care alone in ICU patients. | | |
| **6** | **Cost-effectiveness of Denovo Simvastatin as Adjunctive Therapy in Critically Ill Septic Patients** | Clinical pharmacy | Objectives: Conducting a cost-effectiveness analysis to evaluate the use of de-novo simvastatin plus standard therapy versus standard therapy alone in patients with sepsis over one year. | 2021 | Manuscript was fully accepted for publication in *American Health and Drug Benefits*. The article is currently scheduled for December issue. https://www.ahdbonline.com/ |

| | | | | | |
|---|---|---|---|---|---|
| | | | Methods: One hundred forty-five critically ill patients were recruited in an open open-label, randomized controlled clinical trial. Eighty patients received standard therapy according to Surviving Sepsis Campaign Guidelines 2013 and 65 received oral simvastatin plus standard therapy. The outcomes assessed were the survivals at the end of one year follow up and the intensive care unit ICU length of stay (ICU LOS). Per protocol analysis was used.<br>Results: The ICU LOS was significantly decreased in the simvastatin group (p=0.001). At 12 months, percent of alive patients was 46 % in the simvastatin group compared to 35% in the standard group, although this was not significant (p=0.173). However, when Kaplan Meier curve was | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | constructed, it showed significant difference that favored the standard arm (P=0.01). Simvastatin was the dominant treatment option based on the lower total direct costs in the simvastatin group with respect to the standard group. Saving in costs of the ICU LOS was the main determinant of the cost-saving results of simvastatin. Incremental cost effectiveness ratio (ICER) was negative thus was not calculated. A probabilistic sensitivity analysis and one way sensitivity analysis were done and results were robust to change.<br>Conclusion: Denovo simvastatin adjacent as adjunctive to standard therapy in ICU septic patients had decreased the overall cost through lessening the ICU LOS and its associated cost, but | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | generalization to different ethnic groups due to possible genetic variations requires further investigation. | | |