Transplantation hépatique et don d'organes

ID: 30

Comparison of two different antibioprophylaxis regimens in patients undergoing liver transplantation

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Position du problème et objectif(s) de l'étude:

Nowadays, infections are the first cause of early mortality following liver transplantation. Amongst them, surgical site infection is the most common source of infection. Although antibioprophylaxis is recognized as a cornerstone in the prevention of this complication, few studies tried to identify the most appropriate drug to use in this indication. Our aim was to compare two different antibioprophylaxis regimens in patients undergoing liver transplantation.

Matériel et méthodes:

We performed a retrospective, observational and single-center study including patients undergoing liver transplantation between January 1st, 2016 and December 31th, 2020. During this period, patients received a prophylaxis with piperacillin or with a combination of ceftriaxone and metronidazole. Both treatments were administered for 3 days. Patients receiving others prophylaxis were excluded from our study.

The primary endpoint of the study was the rate of surgical site infection between the two groups (defined by the 2 antibiotic prophylaxis protocols) within one month post transplantation.

The cumulative incidence of risk of surgical site infection in the 30 days after surgery was estimated by the Kalbfleisch and Prentice method to account for hospital discharge as a concurrent event and compared between the 2 groups using a Fine & Gray model (without and with adjustment for confounders significantly associated with the group and risk of infection at the 0.05 threshold).

Résultats & Discussion:

Amongst the 327 patients included in our analysis, 189 (58%) received an antibioprohylaxis based on piperacilline and 138 (42%) an association of ceftriaxone and metronidazole.

The rate of surgical site infection didn't differ significantly between the two groups (16,6% in the ceftraiaxone + metronidazole group vs 17,5% in the piperacillin group, p=0,85).

We didn't find any significant difference as well in the others outcomes studied (rate of extra-abdominal infection, ESBL's infection and postoperative colonization, enterococci's infection, complication requiring surgical intervention).

Conclusion:

Between the two antibioprophyalxis protocols evaluated, our study did not point towards a better one to reduce surgical site infection. Therefore, in an ever-evolving field, our study encourages us to reflect on the pathogens responsible for surgical site infection as well as the available molecules and optimal duration of treatment to fight against them.



Figure 1: Flow Chart of the study.



Figure 2 : Comparison of time without surgical site infection (concurrent event: discharge from hospital) between the 2 groups (group 1 = ceftriaxone + metronidazole; group 2 = piperacillin), censored at 30 days

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