RESULTS. Overall 72 patients were studied, 37 assigned to standard care with Chlorhexidine and 35 to additional application of antibiotic paste. The patient's characteristics concerning median age (63 vs 57 years), APACHE II score (17.8 vs 17.7), mean ICU days (16.2 vs 16.4days) and death rate (22.8% vs 21.6%) among the two groups respectively were comparable. Using statistical analysis, we compared the VAC/IVAC occurrence between the two groups (95% confidence interval [CI], 0.332, 13.082; p= 0.472; OR 1.87) and VAP (X-squared = 1.3455, p-value=0.246).
CONCLUSION. Applying antibiotic decontamination therapy in addition to standard care with oral Chlorhexidine in our ICU, didn't prove to reduce the development of VAC/IVAC and VAP in intubated patients, in a statistically significant way. Although the comparison between two groups (Figure) showed higher VAP occurrence in the group treated with chlorhexidine alone (21.62% vs 11.43%) this was not statistically significant (p=0.246). Our results are limited by the small size of our sample and more patient recruitment is needed.

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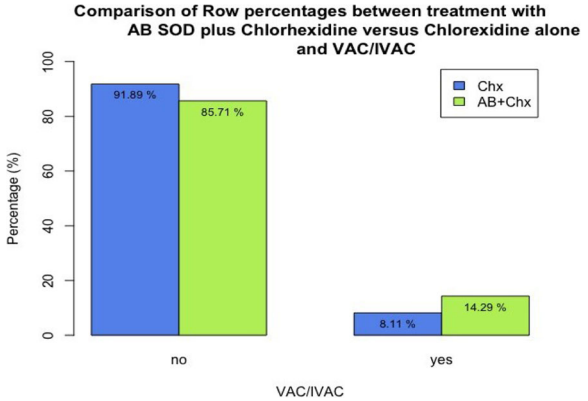

Fig. 2 (abstract 001467). See text for description

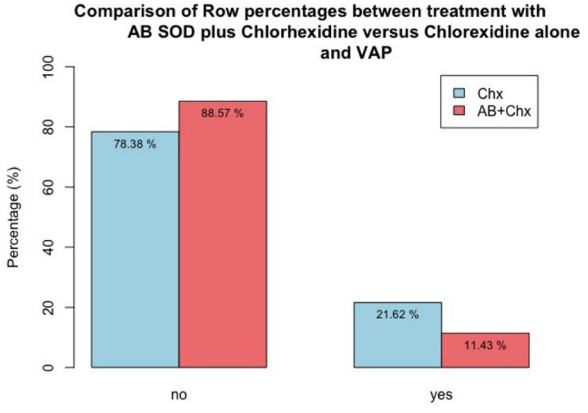

Fig 1 (abstract 001467). See text for description

001544

Perioerative MDR colonisation and surgical prophylaxis

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INTRODUCTION. Multi-drug resistant (MDR) colonization is a major issue worldwide (WHO, 2019), mostly for perioperative and intensive care medicine, frequently resulting in life-threatening infections.
OBJECTIVES. Within our ICU admissions, the aim of this study was to evaluate MDR colonized patients undergoing surgery and their post-operative course compared to non colonized patients.
METHODS. We retrospectively analyzed all consecutive patients undergoing surgery in our hospital for a period of 12 months (July 2017-July 2018) who required ICU admission on POD 0. According to their surveillance swab, we defined patients as negative, negative for MDR bugs, MDR positive (*Enterobacteriaceae* beta-lactamase producer-ESBL, *Enterobacteriaceae* carbapenemase producer-e.g.KPC, non-lactose fermenting-e.g. *Pseudomonas and Acinetobacter spp, MRSA*). We then compared MDR colonized (rectal and/or pharyngeal swab) patients (MDR+) to non colonized patients (MDR-) for post operative complications, ICU and hospital LOS and mortality.
RESULTS. 274 patients were included in the study (186 men), median age 70(61-77) years; they underwent either elective (n=234, 85.4%) or emergency (n=40, 14.6%) surgery; 119 pts (43.4%) were submitted to pancreatic surgery, 67 (24.5%) to hepato-biliary surgery, 51 (18.6%) to intestinal resection and the rest to other abdominal surgery; they were admitted to ICU on POD 0 for scheduled (n =244, 89.1%) or unscheduled intensive PO monitoring. 43 pts were pre operatively MDR+ (15,7%), 13 of whom were either Klebsiella Pneumoniae Carbapenemasis Producer or Enterococcus Faecium VRE colonized and 28 were ESBL colonized. 50 pts resulted colonized early on ICU admission screening. ICU LOS was significantly higher in MDR+ compared to MDR- (6.2±13 vs 2.1±4 days, p <0.05). Hospital mortality occurred in 17 patients, 9 were MDR+, 6 of them died in the ICU. Complication rate and type were significantly different between the two groups. Only 19 MDR+ patients (6.9%) received targeted pre-operative antibiotic therapy compared to standard prophylaxis but, despite a positive trend with regards to infectious complications, LOS and mortality, our results were significant in terms of outcome.
CONCLUSION. Pre-operative surveillance swab positivity correlates with both ICU LOS and post-operative mortality. Might these results be confirmed, targeted perioperative antibiotic prophylaxis should be seriously settled so as to be routinely used to improve patients' outcome. More studies are needed to further investigate the possibile therapeutic options in MDR+ patients undergoing surgery.

001585

Impact of orotracheal intubation and mechanical ventilation on the microbiota of the lung in the development of Ventilator-Associated Pneumonia

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INTRODUCTION. Thanks to the development of the most recent culture-independent methods, changes in lung microbiota composition has been

observed in pulmonary diseases. Its role among critically ill patients need to be largely investigated because many questions are still unanswered in particular regarding pathogenesis of infective complications. In our study we tried to understand which are the major changes that occur during mechanical ventilation and which are critical for the development of VAP (Ventilation Associated Pneumonia).

METHODS. Tracheal aspirates were sampled from 23 patients without pulmonary diseases in progress at the moment of the intubation (T0), after 72 hours (T1) and then every 48 hours later until T7 (day 15) or until the moment of the extubation or the dismission/death of the subject. Analysis of microbiota was performed by 16s rRNA amplifications. Results from QIIME related to taxa classification will be described according diversity measures. Bacterial communities diversity will be analysed applying the Principal Coordinate Analysis (PCoA) based on phylogenetic distance (UNIFRAC) among all samples.

RESULTS. The preliminary molecular analysis have shown the presence of 360 different bacterial taxa. In the first part of our study we focused on the description of the microbial community at the moment of the intubation (T0) and after 72 hours (T1). Three out of 23 patients developed VAP during follow up respectively at day 5, 13 and 15 after mechanical intubation. Overall, the comparison of the samples collected at two different times showed that: Bergeyella Veillonella, Leptotrichia, Variibacter, Stenotrophomonas significantly are less present at T1 than T0 while Peptostreptococcus in T0 than T1. Among three patients with VAP genera Eubacterium, Lachnospiraceae, Lachnospira, Lactobacillus, Leptotrichia, Bradyrhizobium and Anaeroplasma were significantly higher in T0 than T1 while commensal strains characteristic of the upper airway such as Porphyromonas, Alloprevotella, Prevotella, Howardella, Solobacterium, Dialister, Veillonella and Fusobacterium increased in T1 than in T0.

CONCLUSION. Preliminary results highlighted the impact of orotracheal intubation procedure on the pulmonary microbiota changes, in agreement with the previous data emerged in literature (Kelly, 2016) (Vladimir Lazarevic, 2014). Given the few cases of VAP, comparisons between VAP and no-VAP patients do not allow to identify microbiota characteristics associated to development of pneumonia. Larger studies are needed to compare healthy controls and cases that develop VAP and in order to clear the significance of our findings and to achieve a better understanding of the phenomenon.

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001695

A prospective study on Carbapenem Resistant Enterobacteriaceae (CRE) rectal colonization in Indian living donor liver transplant recipients – Incidence & Outcomes

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INTRODUCTION. Immunosuppressive therapy following liver transplantation(LT) makes these patients more susceptible to infections which can lead to poor outcomes following LT.1 Recurrent hospital admissions predispose these patients to colonization with drug resistant organisms and gut is the most common site.2. We therefore decided to study the incidence of Carbapenem Resistant Enterobacteriaceae (CRE) colonization in the gut in our LT recipients, risk factors and the outcome of CRE colonization in those LT recipients.

METHODS. This study was conducted between September 2017 and July 2018 at Gleneagles Global Hospital. All adult living donor liver transplant (LDLT) recipients except acute liver failure, re transplantation and combined organ transplants who consented were included. Rectal swab was done in the week preceding the transplant and immediately cultured on Hi chrome KPC Agar. Any growth was subcultured on Blood agar and MacConkey agar, followed by Identification and Antimicrobial Susceptibility Testing in Vitek 2-Compact system. Antibiotics for perioperative period were started as per institution protocol. Preoperative parameters like MELD score, hospital admissions, episodes of infection and antibiotics used, spontaneous bacterial peritonitis (SBP), UGI bleeding, encephalopathy, acute kidney injury (AKI) large volume paracentesis(LVP) and hydrothorax requiring drainage (HTD) were noted. Intra op details like graft versus body weight ratio (GRWR), surgical duration, blood components used and other complications were noted. Postoperative parameters recorded include prolonged ventilator/ vasopressor requirement, AKI requiring continuous renal replacement therapy(CRRT), graft function & other graft related complications, intraabdominal collections & pleural effusions requiring drainage, infections, duration of ICU and hospital stay and mortality. Data collected was analysed using STATA statistical software. Two-sided independent-sample t test to compare means across dichotomous variables & the one-way ANOVA test for comparison of means across multilevel variables were used. A p value <0.05 was considered statistically significant.

RESULTS. Please see uploaded table. 40 recipients were included. 15 (37.5 %)recipients had CRE colonization - CREpos & 25 (62.5%) were CREnegative. No difference in medical comorbidities were noted except high MELD score in CREpos. Ascitis, LVP,SBP,HTD, malnutrition, AKI, UGI bleeding, encephalopathy, preop ICU were more frequent in CREpos. Requirement of PRBC and other blood components, vasopressors, surgical duration and lactate were higher in the CREpos group. Postoperatively graft function was similar but CREpos had more prolonged requirement of vasopressor/ ventilator and CRRT, reintubations, drainage of intraabdominal collection and pleural effusion, more ICU readmissions, wound infection and bacteremia. The duration of ICU and hospital stay was higher in the CREpos. 2 (13.33%)patients died in CREpos while 1(4 %) died in the CREneg group. Statistically significant difference was noted in the requirement for LVP, preop AKI, PRBC requirement, duration of ICU stay and CRRT requirement. More preop carbapenem exposure was noted in CREpos though it was not statistically significant.

CONCLUSION. LT recipients who require more interventions and hospitalizations in the preoperative period seem more susceptible to CRE colonization. These patients are at a higher risk of complications in the intraoperative and postoperative period with higher mortality rates. The most probable cause for CRE colonization is presumed to be gut translocation although the yield of positive cultures is low. Preemptive selective digestive decontamination needs to be vigorously tested in these immunocompromised patients keeping in mind the presumed risk of emergence of more resistant microorganisms.3,4

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