

Supplementary Table S1. Duration and type of antibiotic prophylaxis according to the number of annual transplantations.

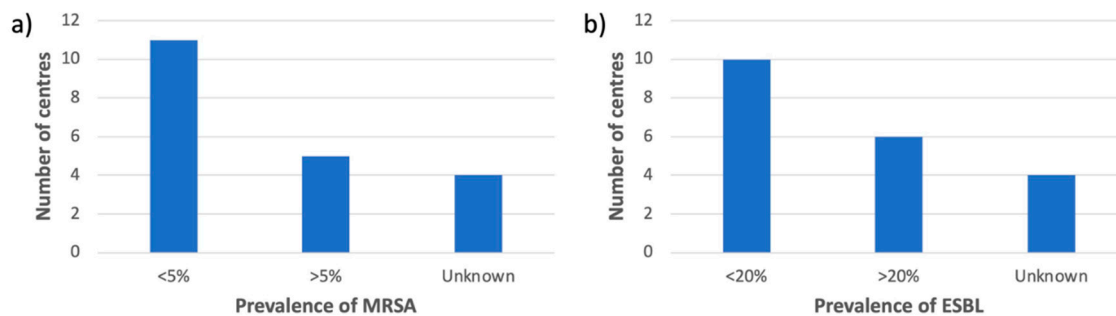
| | | Annual transplantations | |
|---|-----------------|--------------------------------|----------------|
| | | ≤ 20 | > 20 |
| No. of centres | | 11 (55 %) | 9 (45 %) |
| Standard duration of treatment | 24-48 hours | 3 (27 %) | 3 (33 %) |
| | 3-5 days | 3 (27 %) | 3 (33 %) |
| | 6-10 days | 1 (9 %) | 2 (22 %) |
| | Single shot | 1 (9 %) | 0 (0 %) |
| | No standard | 3 (27 %) | 1 (11 %) |
| Type of standard prophylaxis | Narrow spectrum | 7 (64 %) | 3 (33 %) |
| | Broad spectrum | 4 (36 %) | 6 (66 %) |
| Availability of infectious disease specialist | | 10 (91 %) | 6 (66 %) |

Supplementary Table S2. Infection surveillance strategies and non-antibiotic anti-infective measures.

| Surveillance strategies | n (%) |
|---------------------------------|--------------|
| Ascites | 11 (61%) |
| Blood | 9 (50%) |
| Urine | 9 (50%) |
| Tracheal secrete | 11 (61%) |
| Skin swabs | 4 (22%) |
| Rectal swabs | 13 (72%) |
| Nose swabs | 2 (11%) |
| Throat swabs | 7 (39%) |
| Wound swabs | 1 (6%) |
| Preservation fluid of the graft | 10 (56%) |
| All drain fluids | 1 (6%) |
| Biomarker | |
| CRP | 19 (95%) |
| Procalcitonin | 13 (65%) |
| Leukocyte count | 12 (60%) |
| Interleukin 6 | 2 (10%) |
| CRP | 19 (95%) |
| Anti-infective measures | |
| Isolation | |
| 1 week | 1 (5%) |
| 2-3 weeks | 1 (5%) |
| Until discharge | 2 (10%) |

| | |
|---|-----------|
| Until discontinuation and normalisation of CRP and Procalcitonin | 1 (5%) |
| No | 14 (70%) |
| Other prophylactic measures | |
| Chlorhexidine dressing | 8 (40%) |
| Octenidine washing | 4 (20%) |
| Selective bowel decontamination | 1 (5%) |
| Probiotics | 1 (5%) |
| Silver nitrate or antibiotic-impregnated central catheter | 1 (5%) |
| No standard | 2 (10%) |
| Antifungal prophylaxis in the absence of risk factors | 12 (60%) |
| Agent | |
| Fluconazole | 4 (20%) |
| Liposomal amphotericin b | 1 (5%) |
| Micafungin | 2 (10%) |
| Caspofungin | 1 (5%) |
| Total | 20 (100%) |
| Duration of prophylaxis | |
| 3-7 days | 12 (60%) |
| 14-28 days | 2 (10%) |
| > 28 days | 1 (5%) |
| No fungal prophylaxis | 5 (25%) |
| Total | 20 (100%) |
| Additional risk factors triggering antifungal prophylaxis | |
| Antibiotic pre-treatment | 2 (14%) |
| Pre-existing conditions | 5 (33%) |
| Positive fungal cultures | 12 (80%) |
| Intraabdominal patch | 5 (33%) |
| Reoperations | 7 (47%) |
| Massive blood transfusion | 3 (20%) |
| Course of CrP | 5 (33%) |
| Course of procalcitonin | 3 (20%) |
| Acute liver failure | 1 (7%) |
| Length of hospital stay | 1 (7%) |
| Total | 15 (100%) |
| Antiviral prophylaxis | |
| Agent | |
| Gancicovir | 7 (35%) |
| Aciclovir | 7 (35%) |
| Aciclovir or Ganciclovir | 1 (5%) |
| Unspecific immunoglobulins | 1 (5%) |
| Pre-emptive therapy in case of viraemia or symptoms | 3 (15%) |
| Total | 20 (100%) |
| Risk constellation | |
| All patients | 7 (41%) |
| CMV+donor | 4 (24%) |
| CMV+recipient | 3 (18%) |
| Mismatch (CMV-recipient) | 2 (12%) |
| Recipient age under one year | 1 (6%) |
| Total | 17 (100%) |

CrP = c-reactive protein; CMV+/- = cytomegalia virus positive/negative



Supplementary Figure S1. Prevalence of multidrug resistant bacteria in participating paediatric liver transplantation centres. (a) Methicillin-resistant *staphylococcus aureus*. (b) Extended-spectrum β -lactamase.

Questionnaire:

1. Please mark your region in Europe.

- Central Europe
- Northern Europe
- Southern Europe
- Western Europe
- Eastern Europe

2. Please indicate the average number of paediatric liver transplantation per year at your hospital.

- <5
- 5-10
- 11-20
- 21-30
- >30

3. Please indicate the average number of high urgency transplantations

- <3
- 3-5
- >5

4. Please indicate the average number of living related liver transplantations per year

- <5
- 5-10
- 11-15
- 16-20

- >20

5. Is the prevalence of MRSA known? Can you specify please?

- <5%
- 5-10%
- 10-20%
- 20-30%
- >30%
- unknown

6. Is the prevalence of ESBL/Extended spectrum β -lactamases known? Can you please specify?

- <5%
- 5-10%
- 10-20%
- 20-30%
- >30%
- unknown

7. Are you using any of the mentioned anti-infective or antiseptic measures routinely in pediatric liver transplant patients (several answers can be chosen)?

- Chlorhexidine dressing
- Octenidine washing
- Selective bowel decontamination
- Silver nitrate or antibiotic impregnated central catheters
- Probiotics
- other: _____

8. Infectious management/work-up of perioperative anti-infective measures is determined by...(several answers can be chosen)

- Surgeon
- Paediatric surgeon
- Gastroenterologist
- Paediatric gastroenterologist
- Intensive care specialist
- Paediatric intensive care specialist
- Anaesthetist
- Paediatric anaesthetist
- Infectious disease specialist
- Paediatric infectious disease specialist
- other: _____

9. Which unit is in charge of the postoperative care? (several answers can be chosen)

- Paediatric intensive care unit
- Adult intensive care unit
- Mixed intensive care unit
- other: _____

10. Do you provide a basiliximab based immunosuppression?

- Yes
- No

11. Which is your standard immunosuppression regimen in the first three weeks?

- Steroids plus tacrolimus plus mycophenolic mofetil
- Steroids plus cyclosporine plus mycophenolic mofetil
- Steroids plus tacrolimus
- Steroids plus cyclosporine
- Steroids plus mycophenolic mofetil
- Tacrolimus plus mycophenolic mofetil
- Cyclosporine plus mycophenolic mofetil
- Steroids alone
- Tacrolimus alone
- Cyclosporine alone
- Other regimen: _____

12. The target trough level of Tacrolimus in the first week is:

- <8 µg/l
- 8-12 µg/l
- 12-16 µg/l
- >16 µg/l

13. The target of the Cyclosporin A trough level in the first week is:

- <225 µg/l
- 225-300 µg/l
- >300 µg/l

14. Which is the preferred initial steroid?

- Prednisolone
- Methylprednisolone
- Dexamethasone
- Other: _____

15. What is the initial daily steroid dosage?

- _____ mg
- _____ mg/kg
- _____ mg/m²

16. Which antibiotic regimen is used as perioperative standard?

- Aminopenicillin
- Aminopenicillin + β-lactamase inhibitor
- Ureidopenicillin + β-lactamase inhibitor
- Carboxypenicillin

- Cephalosporin 1st generation
- Cephalosporin 2nd generation
- Cephalosporin 3rd generation
- Cephalosporin 4th generation
- Carbapenem
- Metronidazole
- Fluoroquinolone
- others: _____

17. Is there a standard duration of the perioperative antibiotic prophylaxis?

- no
- single shot
- 24-48 hours
- 3-5 days
- 6-10 days
- >10 days

18. If not, which factors influence the duration of antibiotic prophylaxis? (several answers can be chosen)

- Antibiotic pre-treatment
- Pre-existing conditions, e. g. cachexia, ascites
- Known colonization of multi-resistant bacteria
- Age
- Intra-abdominal patch
- Course of C-reactive protein
- Course of procalcitonin
- Donor-specific risk factors, e.g., length of hospital stay
- Ascites after transplantation
- Presence of abdominal patch
- Presence of central venous catheter
- split organ
- other: _____

19. Is there a standard duration of the antibiotic therapy after considering the risk factors?

- no
- single shot
- 24-48 hours
- 3-5 days
- 6-10 days
- >10 days

20. Which is your standard escalation antibiotic therapy in case of suspected infection under prophylaxis (several answers can be chosen)?

- Carbapenem
- Ureidopenicillin + β -lactamase inhibitor
- Cephalosporine 3rd generation
- Cephalosporine 4th generation

- Aminoglycoside
- Fluoroquinolone
- Vancomycin
- Linezolid
- Colistin
- Metronidazole
- other: _____

21. Do you use a standard anti-fungal peri-operative prophylaxis?

- no
- Fluconazole
- Posaconazole
- Voriconazole
- Liposomal amphotericin b
- Caspofungin
- other: _____

22. If you do not use an anti-fungal prophylaxis, are there risk factors that lead to anti-fungal prophylaxis on an individual basis? (several answers can be chosen)

- Antibiotic pre-treatment
- Pre-existing conditions
- Positive fungal cultures (colonisation)
- Donor-specific risk factors, e.g., length of hospital stay
- Age
- Intra-abdominal patch
- Re-operation
- Massive blood transfusion
- Course of C-reactive Protein
- Course of procalcitonin
- other: _____

23. If you use an anti-fungal prophylaxis, how long do you administer it?

- we do not use an anti-fungal prophylaxis
- 24-48 hours
- 3-7 days
- 14-28 days
- >28 days

24. Which are preferred biomarker to monitor bacterial infection? (several answers can be chosen).

- C-reactive Protein
- Procalcitonin
- Interleukin 6
- Interleukin 8
- Leukocyte count
- other: _____

25. Do you isolate your patient after the transplantation?

- no
- yes, period of time: _____

26. Do you use standardized surveillance strategies? (several answers can be chosen)

- no
- ascites
- tracheal secrete
- blood
- urine
- skin swabs
- rectal swabs
- preservation fluid of the graft
- nose swabs
- throat swabs
- other: _____

27. What is your standard antiviral regimen?

- Aciclovir prophylaxis
- Ganciclovir prophylaxis
- Pre-emptive therapy in case of viraemia
- We do not use a standard antiviral regimen.
- other: _____

28. The standard CMV prophylaxis is for:

- all patients
- both CMV positive
- recipient positive
- donor positive
- both negative

29. Do you want to add something? _____

30. If you want, you can name your hospital here. _____