Recommandations européennes : Vaccination des transplantés d'organes solides

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Recommandations européennes

- Non publiées

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- Données à présenter ?

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- Appel à un ami : Merci Olivier Epaulard

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- Non publiées
- Données à présenter ?
- Appel à un ami : Merci Olivier Epaulard
- Nouveau challenge : en 10 minutes !

Guidelines on the vaccination of solid organ transplant recipients:

Vienna, 14 April 2025

ESCMID Global

Congress of the European Society of Clinical Microbiology and Infectious Diseases

Quels changements à venir ?

- Les vaccins non-vivants recommandés ?
- Schémas vaccinaux différents ?
- Place des vaccins vivants atténués ?

dTPcoq

Recommendations

- Vaccinate SOTr

- Perform regular boosts along life (every 10 years?)

Haemophilus influenzae b

Recommendations

- Burden of the disease: unclear
- Vaccination of SOTr: for lung transplant recipients?
  - And/or if other at-risk condition associated (e.g., asplenism)
- Regular boosts along life for particularly at-risk patients?

Papillomaviruses

Recommendations

- Vaccination of SOTr if not done before
  - Age limit: 25? 30?
- 3-doses schedule
- Is there a need for a boost?

Neisseria meningitidis

(only conjugated vaccines for polysaccharide-based)

Recommendations

- Vaccinate all SOT candidates up to 24 years
- Vaccinate all unvaccinated SOTr up to 24 years
- Vaccinate SOTr in case of risk factor (eculizumab, asplenism…)

Hepatitis B

Available evidences: 11 studies

- In adult SOT recipients
  - Primary vaccination post-transplant (5 studies)
  - Completion of series initiated pre-transplant (2 studies)
  - Boosting after transplantation if non-response (4 studies)

- Exclusion:
  - history of HBV infection
  - Donation of anti-HBc positive grafts

Recommendations for hep. B vaccination

- Primary vaccination in SOTr recommended (if not done pre-SOT)
  - 4 doses 40 µg alum-adj. vaccine
  - 4 doses AS04-adj. vaccine: not studied
- Completion of series initiated pre-SOT:
  - Wait >1 year after transplantation
  - Assess antibody response; additional dose(s) (40µg) if undetectable
- Boosting in non-responders or if waning antibodies
  - prior responders before transplantation: up to 80% will respond to booster
  - non-responders: additional doses (40µg)?

Hepatitis A

Data summary

- Prospective (6) and retrospective (6) studies
  - Immunogenicity higher in children SOTr (70-90%)
  - Immunogenicty lower and heterogeneous (0-90%) in adults
- Persistence after SOT of immunity acquired before SOT
- No benefits from a 3-doses initial schedule (vs 2 doses)

Recommendations

- Vaccination of naïve SOT candidates
  - Particularly before liver transplantation

- Serology to assess boost need?
  - In those travelling to at-risk areas
  - In those residing in at-risk areas

Measles

Low post-transplant measles and varicella titers among pediatric liver transplant recipients: A 10-year single-center study

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.1111/petr.14322

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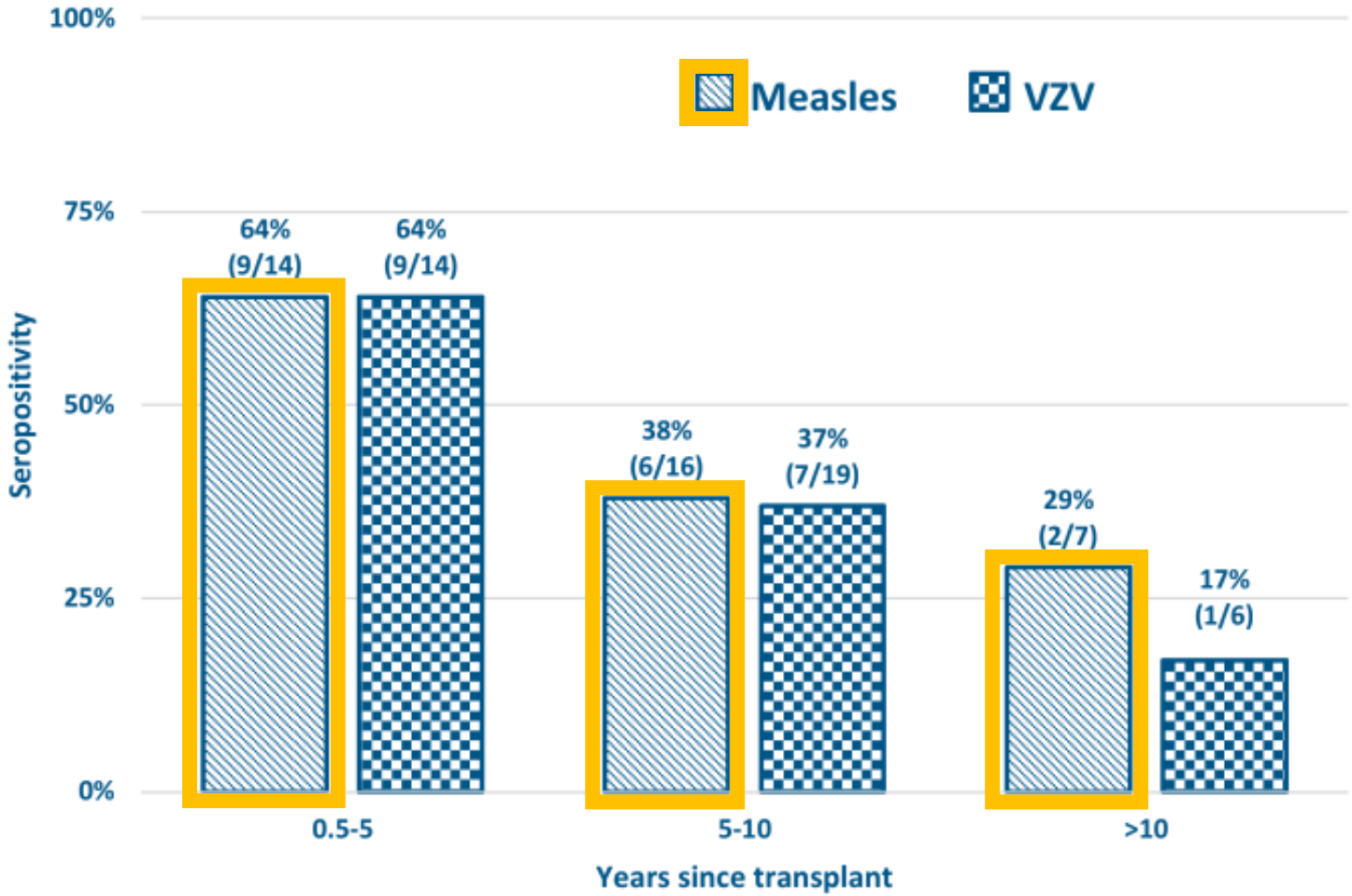
Vaccination pre-SOT



Live-attenuated vaccine failure after liver transplantation: A 20-year cohort study

Vaccine 43 (2025) 126527

Contents lists available at ScienceDirect

Vaccine

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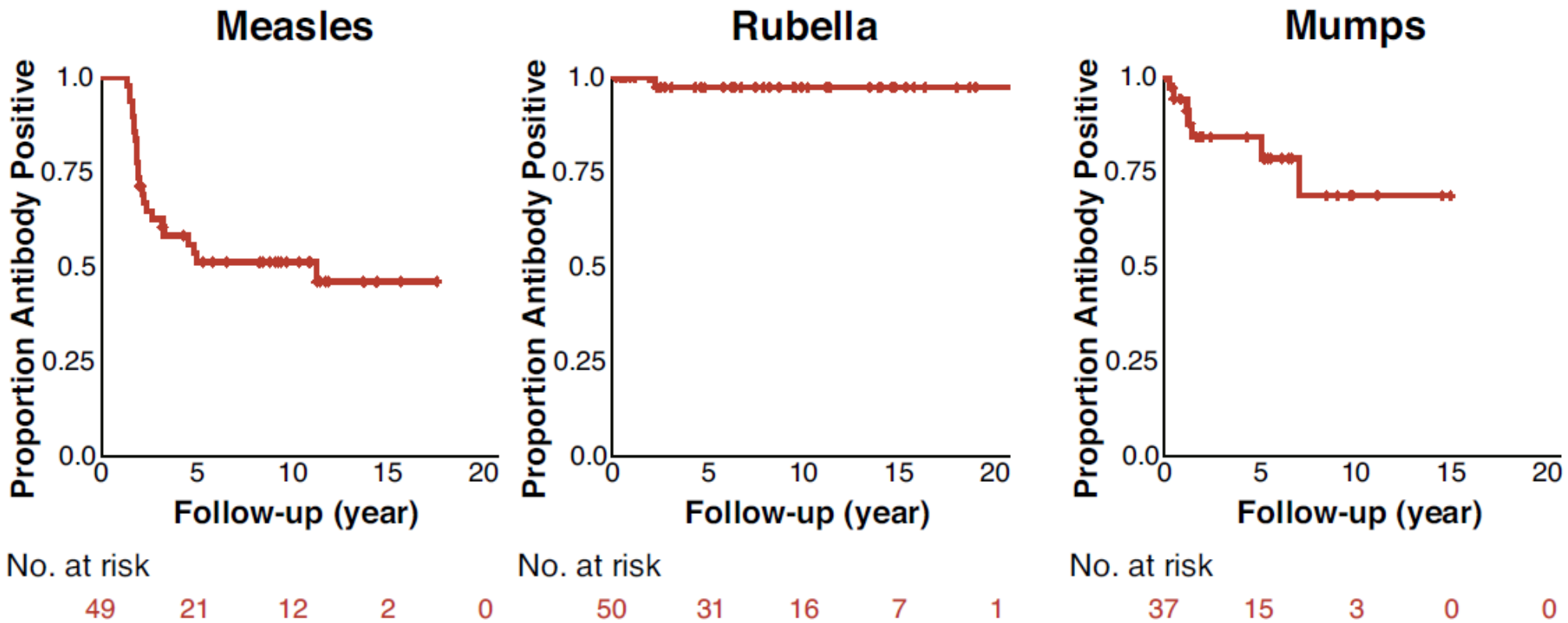

Studies of MMR vaccination after SOT

- Kano 2002 : 13 post-SOT (all already vaccinated before SOT)
  - Pediatric, liver
- Khan 2005: 31 post-SOT
  - Pediatric, liver
- Pittet 2019: 40 post-SOT
  - Pediatric, liver
- Newman 2021: 38 pre- and post-SOT, 59 post-SOT
  - Pediatric, liver
- Feldman 2023: 236 post-SOT
  - Pediatric, mostly liver (some kidney)

Studies of MMR vaccination after SOT

- Strict criteria for live attenuated vaccines in SOTr
  - Consequently, most data are in liver transplant recipients

- Results:
  - Primary vaccination with 2 MMR doses: seroprotection up to 96%
  - Boosting of waning antibodies: seroprotection up to 97%
  - Negative role of MMF (lower response) (*Feldman 2023*)
  - no safety signal, including rejection

TABLE 2 Patient considerations and evaluation prior to consideration of live vaccine administration in the pediatric SOT (liver and kidney) recipients

Group 1: Defer Vaccine	Patients in whom live vaccination post–solid organ transplant should be deferred	• Clinically unwell • Cardiac, lung, and multivisceral TR[a] • High-level immune suppression • Patients with current rejection • Use of novel biologic agents (other han those outlined in the table) • Use of the following agents: ATG <1 y prior Alemtuzumab <2 y prior Rituximab <1 y prior
Group 2: Proceed with Vaccine	Patients in whom live vaccination post-SOT is likely to be safe	Clinically well Do not meet criteria in yellow or red boxes and meet all 3 of the following criteria: 1. Timeline criteria: • 1 y post-transplant AND • 2 mo post–rejection episode *AND* 2. Intensity of Immunosuppression Criteria: • Steroids (prednisone equivalent) <2 mg/kg/d or total cumulative <20 mg/d • Tacrolimus <8 ng/mL for two consecutive readings • Cyclosporine <100 ng/mL for two consecutive readings *AND* 3. Minimum Immune Criteria: • ALC >1500 for children ≤6 y and >1000 cells/μL for children >6 y • CD4 >700 cells/μL for children ≤6 y and >500 cells/μL for children >6 y • Normal total serum IgG for age
Group 3: Vaccinate with Caution	Patient where evidence for safety and efficacy of live vaccination post-SOT is unclear. *Patients who meet these criteria may be eligible for live vaccination after more in-depth evaluation, and provided they meet the minimum timeline, immunosuppression and immunology criteria in Group 1*	• Patients who have received mycophenolate mofetil (MMF)/mycophenolate sodium • Patients who have received the following T cell–depleting agents: ATG—wait 1 y[b] Alemtuzumab—wait 2 y[b] • Use of rituximab—wait 1 y[b] • Patients with persistently elevated EBV viral loads. • Liver transplant recipients who are undergoing immune suppression withdrawal with the goal of cessation or those who are deemed to have "functional tolerance"

Consensus meeting. Suresh, Pediatric Transpl, 2019

Recommendations

- Screen SOT candidates, and vaccinate seronegative before SOT

- Under strict criteria
  - measles primary vaccination with the live vaccine may be considered in selected SOTr (mostly liver?)
  - boosting in case of waning antibodies may be considered in selected SOTr

- Epidemic context should be considered

Varicella

Recommendations

- Screen SOT candidates and vaccinate seronegative before SOT

- Naive SOTr (no varicella nor varicella vaccine):
  - General recommendation not to vaccinate
  - In particular cases, vaccination may be possible
    - Specific discussion for each case
    - Same situation as measles … except that a treatment exists for VZV infection

Les autres vaccins vivants atténués ne sont pas recommandés

Un autre défi en France

- Les futures recommandations françaises

- Une traçabilité claire des vaccinations

Merci