BELGIAN CONSENSUS MEETING on TRAVEL MEDICINE
June 20, 2014

Belgian Scientific Study Group on Travel Medicine

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REPORT
BELGIAN CONSENSUS MEETING on TRAVEL MEDICINE
June 20, 2014 – PART 2

• The consensus meeting was chaired by A. Van Gompel
• Secretary of the meeting was Y, Van Laethem
• A preliminary PowerPoint, prepared by A. Van Gompel, was presented
• The discussion and recommendations of the meeting are included in this finale presentation.
• The ESSENTIAL SLIDES (pdf-version) & the CONSENSUS BROCHURE (in Dutch and French) highlighting the proposals for changes will been sent to all participants. May be used for teaching.
• These documents will serve as a proposal for approval by the governmental Belgian Health Council – section Vaccinations, on 26-06-2014
• Responsible final redaction: A. Van Gompel

PART 1
• 1.a - Vaccination for Yellow Fever
• 1.b - Malaria

PART 2
• 2.A - Other vaccinations
• 2.B - TD, other infections, ….,
• 2.C - VARIA
Basic Vaccinations

- Tetanus-diphteria-pertussis
- Poliomyelitis
- Measles mumps rubella

Zie voor elk van deze vaccinaties de algemene aanbevelingen van de Hoge Gezondheidsraad:

www.health.belgium.be
klik: Nl; → Zoekterm: 'vaccinatie'
en zoek naar de recentste herzieningen

Pour chacune de ces vaccinations, se référer aux recommandations générales du Conseil Supérieur d’Hygiène:

www.health.belgium.be
→ Term de recherche → 'vaccination'
et recherchez les mises à jour les plus récentes.

(HGR-fiche rabies is nog niet volledig up to date) (la fiche CSH rage n’est pas encore complètement up to date)
Voor alle volwassenen wordt de toediening van één dosis Tpa aanbevolen, ongeacht de voorgeschiedenis van een (volledige of onvolledige) kinkhoest-vaccinatie, en zeker diegenen die in contact komen met ongevacineerde of onvolledig gevaccineerde zuigelingen (< 12 maanden) volgens het principe van de cocoonvaccinatie met name: jonge of toekomstige ouders, grootouders en hun naaste familieleden, alsmede het verzorgend personeel van pediatrische diensten, materniteiten, kinderdagverblijven en onthaalmoeders van jonge kinderen (HGR 2013).

Dus het is zo dat voor elke Belg evenals voor elke Europese medische expert een Boostrix® wordt aangeraden bij de eerstvolgende gelegenheid waarbij een Tedivax* zou gegeven worden.

Histoire antérieure concernant la vaccination (complète ou incomplète) contre la coqueluche, aux adultes qui n’ont pas reçu de rappel d’Tpa à 14-16 ans.

Pour tous les adultes, l’administration d’une dose de Tpa est recommandée, indépendamment de l’histoire antérieure concernant la vaccination contre la coqueluche (complète ou incomplète), et en particulier pour ceux qui et qui sont en contact avec des nourrissons (< 12 mois) non ou incomplètement vaccinés selon le principe de la vaccination ‘cocoon’, à savoir: les jeunes parents ou futurs parents, grands-parents et leurs contacts familiaux proches ainsi que le personnel soignant des services pédiatiques, maternités et crèches et les assistantes maternelles gardiennes de jeunes enfants (CSS 2013). Ainsi, pour chaque belge, un vaccin Boostrix® est recommandé dès qu’un vaccin Tedivax* doit être administré.

Voor iedere zwangere vrouw wordt kinkhoestvaccinatie tussen week 24 en week 32 van elke zwangerschap aanbevolen, ongeacht of de vrouw voorheen een herhalingsinenting kreeg. Indien de vaccinatie niet tijdens de zwangerschap wordt gegeven, wordt ze zo snel mogelijk postpartum toegediend als onderdeel van de cocoonstrategie (HGR 2013).

Pour toute femme enceinte, la vaccination contre la coqueluche est recommandée entre la 24e et la 32e semaine de grossesse, indépendamment du fait que la femme a déjà reçu une dose de rappel. Si le vaccin n’est pas administré pendant la grossesse, il devra l’être dès que possible après l’accouchement dans le cadre de la stratégie ‘cocoon’ (CSS 2013).
De vaccins **Tetrix pro adulto** kunnen vanaf 1 juli niet meer besteld worden. In Vlaanderen worden ze vervangen door vaccins **Booster** met een kinkhoestcomponent bij. Deze vaccins mogen toegediend worden op het moment van de herhalingsinjectie tegen tetanus en difterie. De laatste vaccins Tetrix pro adulto die nog geleverd worden, hebben een zeer korte houdbaarheid, namelijk tot september 2014. Het heeft dan ook geen zin extra vaccins te bestellen.

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**Difterie hotspots 1997-2006 gerapporteerd aan de WHO**

- Rood >100 gerapporteerde gevallen
- Oranje 50-100 gevallen
- Geel 1-49 gevallen
- Groen geen gevallen bekend
Primovaccination avec le dTp(a) ?

Ni la notice, ni les recommandations du Conseil Supérieur de la Santé ne mentionnent la possibilité d’une primovaccination avec le dTp(a).

Cependant, une étude publiée en 2007 a montré chez 99% des vaccinés l’obtention de taux séroprotecteurs contre le tétanos et la diphtérie après une primovaccination à l’aide du dTp(a) (3 doses), chez des adultes de plus de 40 ans (en absence de données vaccinales ou avec un dernier rappel datant de plus de 20 ans).

En cas d’indisponibilité du dT, par exemple lors d’une rupture de stock, l’administration du dTp(a) pourrait donc être utilisée en primovaccination.

En cas de nécessité d’une protection contre la poliomyélite, dTp(a)-IPV peut être utilisé.

Vax Info n° 64 - Décembre 2012

POLIO

- WHO Polio Eradication Initiative
  http://www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx

- SEARO/WHO South-East Asia: Press release 26 March 2014:
  WHO South-East Asia Region certified polio-free
Before travelling to areas with active poliovirus transmission, travellers from polio-free countries should ensure that they have completed the age-appropriate polio vaccine series, according to their respective national immunization schedule. Adult travellers to polio-infected areas who have previously received three or more doses of OPV or IPV should also be given another one-time booster dose of polio vaccine. Travellers to polio-infected areas who have not received any polio vaccine previously should complete a primary schedule of polio vaccination before departure.

Before travelling abroad, persons of all ages residing in polio-infected countries (i.e. those with active transmission of a wild or vaccine-derived poliovirus) and long term visitors to such countries (i.e. persons who spend more than 4 weeks in the country), should have completed a full course of vaccination against polio in compliance with the national schedule. Travellers from infected areas should receive an additional dose of OPV or IPV within 4 weeks to 12 months of travel in order to boost intestinal mucosal immunity and reduce the risk of poliovirus shedding, which could lead to re-

The introduction of poliovirus into a polio-free area. For persons who previously received only IPV, OPV should be the choice for the booster dose, if available and feasible. In case of unavoidable last-minute travel, travellers should still receive one dose of OPV or IPV prior to departure, if they have not received documented dose of polio vaccine within the previous 12 months. Some polio-free countries may require such travellers from polio-infected countries to provide documentation of recent vaccination against polio in order to obtain an entry visa, or they may require that travellers receive an additional dose of polio vaccine on arrival, or both.

All travellers are advised to carry their written vaccination record (patient-retained record) in the event that evidence of polio vaccination is requested for entry into countries being visited. Preferably, travellers would use the IHR 2005 International Certificate of Vaccination or Prophylaxis. The certificate is available from the WHO web site at http://www.who.int/ihr/IVC2005_06_26.pdf.
WHO statement on the meeting of the International Health Regulations Emergency Committee concerning the international spread of wild poliovirus

WHO statement
5 May 2014

The Emergency Committee convened by the Director-General under the International Health Regulations (2005) (IHR (2005)) was held by teleconference on Monday 28 April 2014 from 13:30 to 17:30 Geneva time (CET) and on Tuesday 29 April 2014 from 13:30 to 19:00 Geneva time (CET).

• …… declared the international spread of wild poliovirus in 2014 a Public Health Emergency of International Concern (PHEIC).

• …… the Committee’s advice
  – for ‘States currently exporting wild polioviruses’ and
  – for ‘States infected with wild poliovirus but not currently exporting’ …..

• ….. issued them as Temporary Recommendations under the IHR (2005) to reduce the international spread of wild poliovirus, effective 5 May 2014

• reassessment of this situation in 3 months

Therefore,

- EU/EEA Member States are recommended to revise their polio vaccination advice to EU travellers and residents in particular in the ten infected countries. In order to comply with the WHO recommendations and avoid having to be vaccinated in the polio-infected country, it is important for travellers to polio-infected countries to time the additional IPV dose so that it is given within 12 months of the planned departure from the polio-infected country.
Public Health Emergency of International Concern (= PHEIC).

Following the declaration of PHEIC, WHO has issued the following temporary recommendations that will be re-assessed after three months [3].

The main purpose of the measures in the temporary recommendations is to reduce the risk of international spread of wild-type poliovirus before the high WPV transmission season in May and June.

The WHO recommendations divide the 10 polio-infected countries in the world in two groups.

- Three 'currently exporting countries', Pakistan, Cameroon and Syria, from which the virus has been carried to other countries in 2014. **Since August 2014 also Equatorial Guinea**
- Seven countries, Afghanistan, Democratic Republic of Congo, Ethiopia, Iraq, Israel, Somalia and Nigeria, that are infected but currently not exporting poliovirus.

The control measures subsequently reflect this risk stratification:

- The three exporting countries are requested to ensure that all residents and long-term visitors (referred to as those staying in the country for more than four weeks) receive a dose of either OPV or IPV between four weeks and 12 months prior to international travel. They have to ensure that such visitors are provided with an International Certificate of Vaccination or Prophylaxis in the form specified in Annex 6 of the International Health Regulations (2005) to record their polio vaccination and serve as proof of vaccination.
- The seven non-exporting countries are requested to encourage the same vaccinations and ensure that travellers who receive such vaccination have access to an appropriate document to record their polio vaccination status.

The overall polio vaccination uptake is high in the EU and the likelihood of a vaccinated person developing poliomyelitis is very low regardless of whether the person was vaccinated with OPV or IPV. The likelihood that a person vaccinated with IPV will develop an asymptomatic infection after exposure to an infective dose of poliovirus is higher than for someone vaccinated with OPV. This is likely to be part of the explanation for the circulation of wild-type poliovirus in Israel despite the high vaccination coverage and the absence of disease.
Imovax Polio ®
Revaxis ®
&
Boostrix IPV ®

= also Polio

Clearly mention that this is polio-vaccination

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POLIOMYELITIS - UPDATE [1]: BRAZIL, EQUATORIAL GUINEA, ENVIRONMENTAL SAMPLES, GLOBAL

A ProMED-mail post

ProMED-mail is a program of the International Society for Infectious Diseases

In this update:

[1] Brazil, WPV1, environmental samples, PAHO

Date: 21 Jun 2014

Source: PAHO [admin]

Upon detection of wild poliovirus type 1 (WPV1) in environmental samples from Brazil, the Pan American Health Organization (PAHO) / World Health Organization (WHO) recommends that Member States of the Region of the Americas continue to strengthen surveillance for cases of acute flaccid paralysis in order to rapidly detect any new instances of imported poliovirus and maintain high immunization coverage against polio.
Travel Vaccinations

1. Hepatitis A
2. Hepatitis B
3. Typhoid fever
4. Rabies
5. Meningococcal meningitis
6. Japanese encephalitis
7. TBE - FSME
HEPATITIS A

Immunodepressed traveler should – if possible - receive the complete series (2 / 3 doses) before leave (+ antibodytiter)

Hepatitis A vaccine for immunosuppressed patients with rheumatoid arthritis: A prospective, open-label, multi-centre study

Helena H. Askling 1,2,3, Lars Rombo 1,2,3, Ronald van Vollenhoven 4, Ingemar Hallén 5, Åke Thörner 1, Margareta Nordin 5, Christian Herzog 1, Anu Kantele 1,2

1 Karolinska Institutet, Dept. of Medicine/Solna, Unit for Infectious Diseases, SE 17176 Stockholm, Sweden
2 Dept. of Communicable Diseases Control and Prevention, SE 118 97 Stockholm, Sweden
3 Centre for Clinical Research, Södermalm, Uppsala University, SE 631 88 Uppsala, Sweden
4 Unit for Clinical Therapy Research, Inflammatory Diseases (CITRID), Karolinska Institutet, SE-17176 Stockholm, Sweden
5 Dept. of Infectious Diseases, Karlstad County Hospital, SE 651 85 Karlstad, Sweden
6 Dept. of Rheumatology, Hallar Hospital, SE 631 88 Eskilstuna, Sweden
Results:

- The final study population consisted of 53 patients treated with
  - TNFi (n 15), TNFi & MTX (n 21) or MTX (n 17)

<table>
<thead>
<tr>
<th>months after the 1st dose</th>
<th>% of the patients that had attained seroprotection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>6</td>
<td>33%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>months after the 2nd dose</th>
<th>% of the patients that had attained seroprotection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>83%</td>
</tr>
<tr>
<td>6</td>
<td>72%</td>
</tr>
<tr>
<td>at month 24</td>
<td>86%</td>
</tr>
</tbody>
</table>

Conclusions:

- Two doses of hepatitis A vaccine at a 6-month interval provided protection for most immunosuppressed RA patients.
- A single dose does not seem to afford sufficient protection to this group of patients.
Editorial

Hepatitis A vaccination in patients with rheumatic diseases and drug-induced immunosuppression

Silja Buhler* Division of Epidemiology and Prevention of Communicable Diseases/Travel Centre, Institute of Social and Preventive Medicine, University of Zurich, Hausbergestrasse 58, CH-8057 Zurich, Switzerland

Jan G. Visser Department of Infectious Diseases, Leiden University Medical Centre, Albinusdreef 2, 2333 ZA Leiden, The Netherlands

Further doses might have to be applied. Two vaccine doses at the same time or at a one-month interval might be an option, but this approach has not been studied yet. As data on safety and immunogenicity are very limited, further research is urgently needed.

HEPATITIS B

Immunodepressed ....
<table>
<thead>
<tr>
<th>HIV-positieve patiënten en andere patiënten met verminderde immuniteit</th>
<th>Patients séropositifs VIH et autres patients immunodéprimés</th>
</tr>
</thead>
</table>
| Dikkwijls is er geen antistofantwoord na de basis-serie van de hepatitis B vaccinatie bij lage T4; dan wordt (volgens advies van de Hoge Gezondheidsraad) het schema aangeraden van  
• 2 gelijktijdig toegediende dosissen (één in de linker en één in de rechter M. deltoideus),  
• 2 maanden later gevolgd door de toediening van opnieuw 2 dosissen (in linker en rechter M. deltoideus).  
Na hervaccinatieschema wordt na 1-3 maanden een serologische antistoffencontrole (anti-HBs) uitgevoerd | Souvent, il n’y a pas de réponse d’anticorps après la première série de vaccins contre l’hépatite B en cas de T4 bas ; le schéma suivant est alors recommandé (selon l’avis du Conseil supérieur de la santé),  
• 2 doses simultanées (l’une dans la deltoïde gauche, l’autre dans la deltoïde droit),  
• suivies 2 mois plus tard à nouveau par l’administration de 2 doses (dans les deltoïdes gauche et droit).  
Après ce schéma de vaccination, un contrôle sérologique d’anticorps (anti-HBs) sera réalisé après 1 à 3 mois. |

*Medasso / ITG  Gezondheidsadviezen voor reizigers Uitgave 2014-2015
Medasso / IMT Conseils de santé pour voyageurs Edition 2012-2013*
It is recommended that vaccines for use in the 2014 influenza season (southern hemisphere winter) contain the following:

- an A/California/7/2009 (H1N1)pdm09-like virus;*
- an A/Texas/50/2012 (H3N2)-like virus;*
- a B/Massachusetts/2/2012-like virus.

It is recommended that quadrivalent vaccines containing 2 influenza B viruses contain the above 3 viruses and a B/BRisbane/60/2008-like virus.

* A/California/7/2009 is an A/California/7/2009-like virus.

Pendant la saison grippale 2014 (hiver dans l’hémisphère Sud), il est recommandé d’utiliser des vaccins contenant les souches suivantes :

- A/Cali/7/2009 (H1N1)pdm09;*
- A/Texas/50/2012 (H3N2);*
- B/Massachusetts/2/2012.

Il est recommandé que les vaccins quadrivalents contiennent 2 virus grippaux B renferment les 3 virus cl-duessus et une souche B/BRisbane/60/2008.

* A/California/7/2009 est un virus analogue à A/California/7/2009.

It is recommended that vaccines for use in the 2014-2015 influenza season (northern hemisphere winter) contain the following:

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Texas/50/2012 (H3N2)-like virus;
- a B/Massachusetts/2/2012-like virus.

It is recommended that quadrivalent vaccines containing 2 influenza B viruses contain the above 3 viruses and a B/BRisbane/60/2008-like virus.

Pendant la saison grippale 2014-2015 (hiver dans l’hémisphère Nord), il est recommandé d’utiliser des vaccins contenant les souches suivantes :

- A/Cali/7/2009 (H1N1)pdm09;
- A/Texas/50/2012 (H3N2);
- B/Massachusetts/2/2012.

Il est recommandé que les vaccins quadrivalents contiennent 2 virus grippaux B renferment aussi les 3 virus ci-dessus et une souche B/BRisbane/60/2008.
Cochrane 2014

Ty21a vaccine (oral vaccine, three doses)

A three-dose schedule of Ty21a vaccine prevents around one-third to one-half of typhoid cases in the first two years after vaccination (Year 1: 69%, 95% CI 63% to 74%, three trials, 99,979 participants; moderate quality evidence; data taken from a single trial conducted in Indonesia in the 1990s). No benefit was detected in the third year after vaccination. Four additional cluster RCTs have been conducted, but the study authors did not adjust for clustering.

Compared with placebo, this vaccine was not associated with more participants with vomiting, diarrhoea, nausea or abdominal pain (four trials, 2066 participants; moderate quality evidence) headache, or rash (two trials, 1190 participants; moderate quality evidence); however, fever (four trials, 2066 participants; moderate quality evidence) was more common in the vaccine group.

Vi polysaccharide vaccine (injection, one dose)

A single dose of Vi polysaccharide vaccine prevents around two-thirds of typhoid cases in the first year after vaccination (Year 1: 80%, 95% CI 63% to 74%, three trials, 99,979 participants; high quality evidence). In Year 2, the trial results were more variable, with the vaccine preventing between 35% and 69% of typhoid cases (Year 2: 50%, 95% CI 45% to 69%; four trials, 194,869 participants; moderate quality evidence). The three-year cumulative efficacy of the vaccine is around 80% (95% CI 39% to 79%; 11,384 participants; one trial; moderate quality evidence). These data are taken from a single trial in South Africa in the 1990s.

Compared with placebo, this vaccine was not associated with more participants with fever (four trials, 133,038 participants; moderate quality evidence) or erythema (three trials, 132,261 participants; low quality evidence); however, swelling (three trials, 176,767 participants; moderate quality evidence) and pain at the injection site (one trial, 667 participants; moderate quality evidence) were more common in the vaccine group.
Cochrane 2014

Ty21a vaccine (oral vaccine, three doses)

Vi polysaccharide vaccine (injection, one dose)

**Vx-EPa vaccine (two doses)**

Administration of two doses of the Vx-EPa vaccine prevents between 90% and 96% of typhoid cases during the first two years after vaccination (Year 1: 94%, 99%; CI 90% to 99%, Year 2: 87%, 99%; CI 90% to 99%) in one trial, 12,209 participants; moderate quality evidence). These data are taken from a single trial with children 2 to 5 years of age conducted in Vietnam.

Compared with placebo, the first and second doses of this vaccine were not associated with increased risk of adverse events. The first dose of this vaccine was not associated with fever (2 studies, 12,209 participants; low quality evidence), erythema (two trials, 12,209 participants; moderate quality evidence). The second dose of this vaccine was not associated with fever (two trials, 11,286 participants; low quality evidence), erythema (two trials, 11,286 participants; moderate quality evidence) and swelling at the injection site (two trials, 11,286 participants; moderate quality evidence).

**Authors’ conclusions**

The licensed Ty21a and Vi polysaccharide vaccines are efficacious. The new and unlicensed Vx-EPa vaccine is as efficacious and may confer longer immunity.

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**IDSA 2012 conference poster 251**

**Estimating Effectiveness of Typhoid Vaccination Using National Surveillance Data**

Anna E. Newton¹, Barbara E. Mahon², Eric D. Mintz³

¹Centers for Disease Control and Prevention

**Conclusions**

- We estimate moderate VE 64% for typhoid vaccination of US travelers based on US surveillance data
- This result supports the current recommendation that vaccination be offered to travelers to areas where TF is common
- Increased vaccine use among travelers to these destinations and development of an effective PF vaccine could significantly reduce the burden of illness
- Typhoid vaccine is recommended for persons traveling to areas where there is an increased risk of exposure
  - The most recent pre-travel vaccination guidelines can be found at [www.cdc.gov/travel](http://www.cdc.gov/travel)
- Because typhoid vaccines are not 100% efficacious, travelers should adhere to safe food and water guidelines as well as practice good hygiene when travelling
- Improvement in completeness of reporting vaccination status and type of vaccine received could enhance the reliability of these estimates and could facilitate estimation of VE for each vaccine
Effectiveness of typhoid vaccination in US travelers

Barbara E. Mahon, Anna E. Newton, Eric D. Mintz

Typhoid vaccination is recommended in the United States before travel to countries where typhoid fever is endemic, though little information is available on its effectiveness in travelers.

We estimated typhoid vaccination effectiveness (VE) by comparing vaccination status in cases of typhoid fever and paratyphoid fever (Salmonella Paratyphi A or B) infections, against which typhoid vaccine offers no protection, reported in the United States. We excluded travelers to Southern Asia and exclusions persons <2 years old and cases in which vaccination status was not reported.

From 2008 through 2011, 744 eligible cases (622 typhoid, 142 paratyphoid A) were reported to CDC. Typhoid vaccination was reported for 55 (29.6%) of typhoid patients and for 109 (77.4%) of paratyphoid A patients. Estimated VE was 69% (95% confidence interval, 56–80%). Because of missing data, we could not estimate VE for specific vaccines.

We demonstrated moderate effectiveness of typhoid vaccinations in US travelers, supporting vaccination recommendations.

Published by Elsevier Ltd.

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EFFICACITÉ ET TOLÉRANCE DES VACCINS ANTI-TYPOHIDIQUES
Dans les armées de 1991 à 1995

M. DESFONTAINE, Ph. EONO, P. SALIOU, M. MEYRAN, Y. BUISON, J.L. REY

Une bonne immunisation contre la typhoïde reste une nécessité pour toutes les personnes qui se rendent en zones endémiques, en particulier les militaires lors des missions hors du territoire métropolitain. Une évaluation de l’efficacité et de la tolérance du vaccin anti-typhoïdique a été réalisée à partir des données de surveillance épidémiologique dans les armées. L’efficacité apparaît bonne. Pour le vaccin enterique inactif (Ty2) un cas pour 16 000 vaccins. Pour le vaccin polysaccaridique capsulaire purifié Typhim V® (Pasteur-Mérieux Connaught) aucun cas n’a été rapporté sur plus d’un million de vaccins effectués en France métropolitaine et aucun cas pour 225 000 vaccins effectués en zones endémiques. La tolérance est bonne, le taux d’incidence d’effets adverses est estimé à 5 pour 100 000 vaccinations. Cette étude a permis d’améliorer, par ailleurs, le système de recueil des statistiques et de montrer l’importance des foyers para A et B dans les zones tropicales.


Active immunization against typhoid fever is necessary for travelers in endemic areas and, especially, for military personnel stationed abroad. A safety and efficacy assessment of typhoid fever vaccines has been carried out based on the French armed forces’ epidemiological surveillance data. The efficacy appears to be very good. For the inactivated whole-cell parenteral vaccine, the rate of failure was one per 16,000 vaccinated. For the vaccine consisting of the purified capsular polysaccharide from Salmonella typhi, Typhim V® Pasteur Mérieux Connaught, Lyon, France, no case of typhoid fever has been reported in more than one million vaccines in France and in 225,000 vaccines in other countries. The incidence of side-effects of 5 per 100,000 immunizations confirms the good safety record of typhoid fever vaccines. This study led to an improvement in the recording system of medical statistics and highlighted the important public health risk of paratyphoid fever type A and B in tropical areas.

Key-words: Efficacy - France - Immunization against typhoid fever - Military - Safety.

médecine et armées, 1997, 25, 5, 403-405
MENINGOCOCCAL MENINGITIS

Promedmail 20 May 2014

- The new vaccine MenAfriVac® is manufactured by Serum Institute of India Ltd. and was developed for the meningitis belt through the Meningitis Vaccine Project, a partnership between WHO and PATH, funded by the Bill & Melinda Gates Foundation.
- …… since the introduction of the meningococcal A conjugate vaccine in countries of the African meningitis belt in 2010, the WHO noted a decrease in the number of cases of meningitis; in fact, the number of cases in 2013 was the lowest recorded during the epidemic season in the last 10 years (http://www.who.int/csr/don/2013_06_06_menin/en/).
- In addition, Neisseria meningitidis serogroup A was noted to be no longer the predominant pathogen.
Effect of a serogroup A meningococcal conjugate vaccine (PSa-TT) on serogroup A meningococcal meningitis and carriage in Chad: a community study

Lancet 2014

CID_13

Impact of the Serogroup A Meningococcal Conjugate Vaccine, MenAfriVac, on Carriage and herd immunity

Paul A. Kistemaker,1 Fabiana dos Santos,2 Alessandro Kiy Ru Ba,3 Auréas Santos,4 Raffaella D’arapa,5 Raomantea Rajaonarivo,6 Lunasse Sangare,7 Dwayne Kandola,8 Flavio Abe,9 Inger Marie Saps,10 Thomas A. Clark,11 Lenn Mboob,12 David M. Morbeck,13 Jennifer Babin Thomas,12 Jennifer C. Brown,12 Thomas Unterbrink12,14 Marc H. van der Meulen15,16; Marc Lallement17,18 and Dominique A. Caugant

Summary

Background A serogroup A meningococcal polysaccharide–tetanus toxoid conjugate vaccine (PSa-TT, MenAfriVac) was licensed in India in 2009, and pre-qualified by WHO in 2010, on the basis of its safety and immunogenicity. This vaccine is now being deployed across the African meningitis belt. We studied the effect of PSa-TT on meningococcal meningitis and carriage in Chad during a serogroup A meningococcal meningitis epidemic.

Methods We obtained data for the incidence of meningitis before and after vaccination from national records between January, 2009, and June, 2012. In 2012, surveillance was enhanced in regions where vaccination with PSa-TT had been undertaken in 2011, and in one district where a routine vaccination campaign in response to an outbreak of meningitis was undertaken. Meningococcal carriage was studied in an age-stratified sample of residents aged 5 years or older, and 6–16 years in 2012, and 6–26 years in 2011. Meningococci obtained from pharyngeal fluid or oropharyngeal swabs were characterised by conventional microbiological and molecular methods.

Findings Roughly 3.8 million individuals aged 1–29 years received one dose of PSa-TT during a vaccination campaign in three regions of Chad in 2011 and around the capital N’Djamena during 30 days in December, 2011. The incidence of meningococcal meningitis during the 2012 meningitis season in those three regions was 2·81 per 100 000 (95% CI 2·24–3·49 per 100 000) in 2011, and 0·13 per 100 000 (0·04–0·31 per 100 000) in 2012. A 98% difference in crude incidence (p=0·002) and an incidence rate ratio of 0·064 (95% CI 0·444–0·990) was observed. Despite enhanced surveillance, no case of serogroup A meningococcal meningitis was reported in the three vaccinated regions. 52 serogroup A carriage were identified in 4278 age-stratified enrolment (97·75%) living in a rural area near the capital 2·4 months before vaccination, whereas only one serogroup A meningococcus was isolated in 2001 in people living in the same community 4·4 months after vaccination (adjusted odds ratio 0·019, 95% CI 0·006–0·430, p=0·002).

Interpretation PSa-TT was highly effective at prevention of serogroup A invasive meningococcal disease and carriage in Chad. How long this protection will persist needs to be established.

Impact of the Serogroup A Meningococcal Conjugate Vaccine, MenAfriVac, on Carriage and herd immunity

CID_13

(See the Editorial Commentary by Meadon on pages 304–6.)

Background. The conjugate vaccine against serogroup A Neisseria meningitidis (MenA), MenAfriVac, was first introduced in mass vaccination campaigns of 3–29 year-olds in Burkina Faso in 2010. It is not known whether MenAfriVac has an impact on NmA carriage.

Methods. We conducted a repeated cross-sectional meningococcal carriage study in a representative population of the 1–29 year-old population in 3 districts in Burkina Faso before and up to 13 months after vaccination. One district was vaccinated in September 2010, and the other 2 were vaccinated in December 2010. We analysed 25321 oropharyngeal samples, of which 22995 were obtained after vaccination.

Results. In October–November 2010, NmA carriage prevalence in the unvaccinated districts was comparable to the baseline established in 2009, but absent in the vaccinated district. Serogroup A meningococcal carriage (NmA) declined in both vaccinated and unvaccinated districts. With 4 additional sampling campaigns performed throughout 2011 in the 3 districts, overall postvaccination meningococcal carriage prevalence was 6·5%, with NmA carriage prevalence declining for each campaign (from 8·4% to 1·8%). Compared with a baseline NmA carriage prevalence of 0·39% in NmA, MenAfriVac was identified after vaccination. Overall vaccination coverage in the population sampled was 89·7%, declining over time to 1-year-olds (from 87·1% to 26·5%), as unvaccinated infants reached 1 year of age. NmA carriage was eliminated in both the vaccinated and unvaccinated population from 3 weeks up to 13 months after mass vaccination (P<0·002).

Conclusions. The disappearance of NmA carriage among both vaccinated and unvaccinated populations is consistent with a vaccine-induced herd immunity effect.
Serogroup A meningococcal conjugate vaccination in Burkina Faso: analysis of national surveillance data


Summary

Background: An affordable, highly immunogenic Neisseria meningitidis serogroup A meningococcal conjugate vaccine (MenC-TT) was licensed for use in sub-Saharan Africa in 2009. In 2010, Burkina Faso became the first country to implement a national prevention campaign, vaccinating 11.4 million people aged 5–29 years. We analysed national surveillance data around MenC-TT introduction to investigate the early effect of the vaccine on meningococcal incidence and epidemiology.

Methods: We examined national population-based meningococcal surveillance data from Burkina Faso using two sources, one with cases and deaths aggregated at the district level from 1997 to 2011, and the other enhanced with results of concomitant fluid examination and laboratory testing from 2007 to 2011. We compared monthly rates and incidence of suspected meningococcal, probable meningococcal meningitis by age, and serogroup-specific meningococcal disease before and during the first year after MenC-TT implementation. We assessed the trend of meningococcal disease and deaths between years.

Findings: During the 14-year period before MenC-TT introduction, Burkina Faso had 18,091 cases of suspected meningococcal with 17,945 deaths, and 374 district-level epidemics. After vaccine introduction, there was a 78% decline in rates of meningococcal meningitis (RSD ratio 0.29; 95% CI 0.25–0.33, p<0.001) and a 64% decline in risk of fatal meningitis (0.36; 95% CI 0.33–0.39, p<0.001). We identified a statistically significant decline in risk of probable meningococcal meningitis across the age group targeted for vaccination (62%, cumulative incidence ratio [CIR] 0.38; 95% CI 0.31–0.45, p<0.001) and among children aged less than 5 years (55%, 95% CI 0.39–0.66, p<0.001). People aged 5 years and older (55%, 0.45, 0.22–0.71, p=0.001) who were eligible for vaccination. No cases of serogroup A meningococcal meningitis occurred among vaccinated individuals, and epidemics were eliminated. The incidence of laboratory-confirmed serogroup A meningococcal meningitis dropped significantly to 0.08 per 100,000 individuals per year, representing a 99% reduction in the risk of meningococcal A meningitis (CIR 0.002, 95% CI 0.0004–0.02, p<0.001).

Interpretation: Early evidence suggests the conjugate vaccine has substantially reduced the rate of meningococcal meningitis in people in the target age group and in the general population because of high coverage and herd immunity. These data suggest that fully implementing the MenC-TT vaccine could end epidemic meningococcal serogroup A in sub-Saharan Africa.
C'EST UNE COMMUNICATION DIRECTE AUX PROFESSIONNELS DE LA SANTÉ.

Objet: La version actuelle du résumé des caractéristiques du produit Mencevax ACWY™ fait état d'une persistance des anticorps pendant au moins trois ans. Les données disponibles suggèrent d'envisager une vaccination de rappel plus précocement chez les personnes qui demeurent à haut risque d'exposition aux sérogroupes A, W, 135 et Y.

Cher professionnel de la santé,

Résumé

- Des résultats d'études montrent un déclin des titres en anticorps un à deux ans après vaccination par Mencevax ACWY.
- Chez les personnes qui demeurent à haut risque d'exposition à Neisseria meningitidis, il y a lieu d'envisager une vaccination de rappel plus tôt qu'actuellement recommandée.
- Les vaccins conjugués sont recommandés lorsque l'on envisage une vaccination de rappel dans les deux ans après administration de la dose précédente de Mencevax ACWY.
Preprophylactic rabies vaccine is no longer available via EPI/ WIV/ISP. Rabies vaccine is now commercially available in Belgium. (either Merieux or Novartis). Rabies vaccine Merieux® is reimbursed, but not Rabipur® (request still pending). The two vaccines are interchangeable and can be used for subsequent vaccination.

The vaccination scheme is 3 shots within one month. This is the basis whereby the patient remains fully protected for decades (probably lifelong) boostable. So the only once needed booster dose can be given after one year or later. Every shot counts, so even if a

From 31-05-2013 on:
no booster after 1 year or later is advised anymore for at least 20-30 years after the basic series of 3 shots (1-7-21/28)
in persons with normal immunity

Accelerated schedule off label

- Accelerated schedules (D1, D4, D8)
- not licenced = off label
- To be discussed with the client
NECTM 5 Bergen Norway 2014

Jelinek LECTURE & POSTER

accelerated pre-exposure purified
Chick-embryo cell-culture rabies vaccine for travelers

A PHASE III, MULTICENTER, OBSERVER-BLIND STUDY TO ASSESS THE IMMUNOGENICITY AND SAFETY OF AN ACCELERATED PRE-EXPOSURE DOSING REGIMEN OF PURIFIED CHICK-EMBRYO CELL-CULTURE RABIES VACCINE FOR TRAVELERS

Jelinek T1, Becker W1, Döckmann S2, Katz C3, Kollnich M4, Karlishof H5, Reissinger E6, Cocteclin M1, Geil A1, Bosse D1, Pollagriel M1, Lattanza M1

1 Nordic Centre for Travel and Tropical Medicine, Berlin, Germany; 2 Department of Medicine, Hamburg, Germany; 3 Institute for Tropical Medicine and International Health, Hamburg, Germany; 4 Institute of Infection Medicine, University of Munich, Germany; 5 Department of Vaccinology, Institute for Tropical Medicine, University of Hamburg, Germany; 6 University of Hamburg, Germany

Table 1. Vaccination schedule and study groups

<table>
<thead>
<tr>
<th>Groups (Overall N=661)</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerated Rabies+JE</td>
<td>Rabies vaccine on days 1, 8, and 29*</td>
</tr>
<tr>
<td>(R/Je-Acc)</td>
<td>Placebo on day 29</td>
</tr>
<tr>
<td>(n=217)</td>
<td>JE vaccine on days 1 and 29,</td>
</tr>
<tr>
<td></td>
<td>Placebo on day 29</td>
</tr>
<tr>
<td>Conventional Rabies+JE</td>
<td>Rabies vaccine on days 1, 8, and 29*</td>
</tr>
<tr>
<td>(R/Je-Conv)</td>
<td>Placebo on day 4</td>
</tr>
<tr>
<td>(n=167)</td>
<td>JE vaccine on days 1 and 29,</td>
</tr>
<tr>
<td></td>
<td>Placebo on day 8</td>
</tr>
<tr>
<td>Conventional Rabies (R-Conv)</td>
<td>Rabies vaccine on days 1, 8 and 29*</td>
</tr>
<tr>
<td>(n=221)</td>
<td>Placebo on days 1, 4, 8, and 29</td>
</tr>
<tr>
<td>Conventional JE (JE-Conv)</td>
<td>JE vaccine on days 1 and 29*</td>
</tr>
<tr>
<td>(n=56)</td>
<td>Placebo on days 1, 4, 8, and 29</td>
</tr>
</tbody>
</table>

To keep the observer blind design, placebo was matched with Rabies or JE vaccination according to study group. Corresponding vaccination days according to official label use:

* Purified Chick-Embryo Cell rabies vaccine, days 0, 7 and 28.

* Japanese encephalitis inactivated adsorbed vaccine, days 0 and 28.
The percentages of subjects with RVNA levels ≥ 0.5 IU/mL at 7 days after the last active vaccination were 100% (R/JE-Acc) and 99% (R-Conv).

As expected, a faster decrease in RVNA antibody titers was observed in the accelerated group than in the 2 conventional schedule groups (Figure 2A).

Irrespective of vaccination regimen, strong short-term immune responses up to day 57 were observed, with percentages of subjects with adequate antibody titers above 95% at all time points in all groups as soon as 2 weeks after the first vaccination (Figure 2B).
As expected, a faster decrease in RVNA antibody titers was observed in the accelerated group than in the 2 conventional schedule groups (Figure 2A).

Irrespective of vaccination regimen, strong short-term immune responses up to day 57 were observed, with percentages of subjects with adequate antibody titers above 95% at all time points in all groups as soon as 2 weeks after the first vaccination (Figure 2B).

SAFETY

- Solicited reactions and unsolicited AEs were comparable across the vaccine groups and the majority of AEs were of mild to moderate intensity.

- Any local solicited reactions were reported by 73% to 75% of subjects across groups, systemic reactions were observed in 60% to 66% of subjects across groups (Figure 3).

- The most common local reaction after any vaccination was pain (51% to 57% across groups); the most common systemic reactions after any vaccination were fatigue (33% to 43% across groups) and headache (37% to 41% across groups). Severe reactions occurred in ≤ 3% (local) and ≤ 4% (systemic) of subjects across rabies groups.

- Percentage of subjects with spontaneously reported AEs were 50% of subjects in Group R/J-E-Acc, 42% of subjects in Group R/J-E-Conv and 50% of subjects in Group R-Conv. Of these AEs, 18% to 23% was considered at least possibly related to study vaccination (Table 3).

- SAEs were reported in 1% of subjects across groups (Table 3). There were 2 possibly/probably vaccine-related SAE in the R-Conv group (one case of atrial fibrillation and one case of tachycardia and syncope), both cases resolved. There were no deaths.
Figure 3. Percentage of subjects with at least one solicited adverse reaction reported from day 1 through day 7, after any vaccination.

![Bar chart showing percentage of subjects with solicited reactions.]

Table 3. Overview of unsolicited adverse events

<table>
<thead>
<tr>
<th>Category</th>
<th>R/JE-Acc (n=217)</th>
<th>R/JE-Conv (n=166)</th>
<th>R-Conv (n=220)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any AE, % (n)</td>
<td>108 (50%)</td>
<td>69 (42%)</td>
<td>110 (50%)</td>
</tr>
<tr>
<td>At least possibly related AE, % (n)</td>
<td>49 (23%)</td>
<td>30 (18%)</td>
<td>49 (22%)</td>
</tr>
<tr>
<td>Any SAE, % (n)</td>
<td>3 (1%)</td>
<td>2 (1%)</td>
<td>2 (1%)</td>
</tr>
<tr>
<td>At least possibly related SAE, % (n)</td>
<td>0</td>
<td>0</td>
<td>2 (1%)</td>
</tr>
</tbody>
</table>

AE, adverse event; SAE, serious adverse event.
CONCLUSION

- The accelerated PrEP regimen of 3 doses in one week induced strong immune responses against rabies comparable with conventional regimens and was well tolerated, supporting its use for rabies immunization in individuals traveling at short notice to rabies-endemic countries.
- Simultaneous administration of JE and rabies vaccines did not affect immune responses and was not associated with increased reactogenicity as compared with rabies vaccine alone.
- As some people have little time before travel, this accelerated regimen could provide an advantage once licensed.
Future accelerated & intradermal rabies vaccination (Soentjes et al., ...)
JAPANESE ENCEPHALITIS

Accelerated schedule off label

- Accelerated schedules (D1, D8)
- not licenced = off label
- To be discussed with the client
NECTM 5  Bergen Norway 2014
Jelinek LECTURE & POSTER
accelerated JE vaccine for travelers

**IMMUNOGENICITY AND SAFETY OF AN ACCELERATED DOSING REGIMEN OF JAPANESE ENCEPHALITIS INACTIVATED ADSORBED VACCINE FOR TRAVELERS: A PHASE III RANDOMIZED STUDY IN HEALTHY ADULTS**

Jelinek T., Baruch D., Bockmann S., Böhmer F., Kellner H., Keith H., Renker E., Seifert M., Geisel D., Buse D., Ahmed H., Frappardo F.

Immunology and Infectious Disease Division of Epidemiology and Preventive Medicine, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Institute of Internal Medicine and Infectious Disease, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland. Department of Internal Medicine and Infectious Diseases, Institute of Social and Preventive Medicine, University of Zurich, Switzerland.

### Table 1. Vaccination schedule and study groups (enrolled population)

<table>
<thead>
<tr>
<th>Groups (Overall N=661)</th>
<th>Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accelerated Rabies+JE (R/JE-Acc) (n=217)</td>
<td>JE vaccine on days 1 and 8, Placebo on day 29</td>
</tr>
<tr>
<td>Conventional Rabies+JE (R/JE-Conv) (n=167)</td>
<td>JE vaccine on days 1 and 29&lt;sup&gt;a&lt;/sup&gt;, Placebo on day 8, Rabies vaccine on days 1, 8, and 29&lt;sup&gt;b&lt;/sup&gt;, Placebo on day 4</td>
</tr>
<tr>
<td>Conventional JE (JE-Conv) (n=56)</td>
<td>JE vaccine on days 1 and 29&lt;sup&gt;a&lt;/sup&gt;, Placebo on days 1, 4, 8 and 29</td>
</tr>
<tr>
<td>Conventional Rabies (R-Conv) (n=221)</td>
<td>Rabies vaccine on days 1, 8 and 29&lt;sup&gt;b&lt;/sup&gt;, Placebo on days 1, 4, 8 and 29</td>
</tr>
</tbody>
</table>

To keep the observer blind design, placebo was matched with Rabies or JE vaccination according to study group. Corresponding vaccination days according to official label use:

<sup>a</sup> Japanese encephalitis inactivated adsorbed vaccine, days 0 and 28.
<sup>b</sup> Pulsed Chick-Embryo-Cell-culture rabies vaccine, days 0, 7 and 28.

Results of Rabies vaccination will be presented separately.
**IMMUNOGENICITY**

- Strong immune responses were observed following both the accelerated and conventional vaccine schedules, with similar percentages of subjects achieving protective levels of anti-JE antibodies (PRNT$_{50}$ >1:10) from 7 days after the last dose across groups.

- Non-inferiority for the accelerated immunization schedule as compared to the conventional schedule was established as the lower limit of the 2-sided 97.5% confidence interval for the group difference (R/JE-Acc minus JE-Conv) was −4.8%, which was above the pre-specified margin of −10%. Percentages of subjects with PRNT$_{50}$ titer of ≥1:10 at 28 days after the last active vaccination were 99% and 100% for R/JE-Acc and JE-Conv, respectively (Figure 1).

- In the R/JE-Acc group, PRNT$_{50}$ geometric mean titers (GMTs) were highest at 14 days after last active vaccination (GMT 1259), GMTs at days 36 and 57 were 695 and 368 in the R/JE-Acc group, 291 and 301 in the R/JE-Conv group, and 377 and 345 in the JE-Conv group, respectively (Figure 2A).

- Percentages of subjects with PRNT$_{50}$ titers of ≥1:10 at 7 days after last active vaccination were 99% (day 15, R/JE-Acc), 99% (day 36, R/JE-Conv) and 100% (day 36, JE-Conv), remaining at stable levels for all vaccination regimens up to day 57 postvaccination (Figure 2B).
SAFETY

- Solicited reactions and unsolicited AEs were generally comparable between groups and mostly of mild to moderate intensity.
- Any solicited local and systemic reactions were reported in 63% to 75% and 54% to 66% across groups, respectively, with the lowest rates reported in the JE-Conv group (Figure 3).
- The most frequently reported local reaction after any vaccination was pain, reported by 20% to 53% across groups. The most commonly reported systemic reactions after any vaccination were fatigue (33% to 43% across groups), followed by headache (30% to 41% across groups). Severe reactions were rare and occurred in ≤1% (local) and ≤4% (systemic) of subjects across groups.
- Unsolicited AEs were reported by 50% of subjects in the R/JE-Acc group, 42% of subjects in the R/JE-Conv group and in 52% of subjects in the JE-Conv group, of which 11% to 23% were considered as at least possibly related to study vaccination. (Table 3). The most frequently reported unsolicited AEs were nasopharyngitis and headache.
- SAEs were reported in 1% to 5% of subjects across groups (Table 3). There was 1 possibly/probably vaccine-related SAE in the JE-Conv group (eyelid edema and generalized pruritus, resolving in 1 day without treatment). There were no vaccine-related deaths.
Figure 3. Percentage of subjects with at least one solicited adverse reaction reported from day 1 through day 7, after any vaccination (4 active (non-placebo) injections for groups R/JE-Acc and R/JE-Conv, 2 active injections for group JE-Conv).

<table>
<thead>
<tr>
<th>% of subjects with solicited reactions</th>
<th>Group R/JE-Acc (n=217)</th>
<th>Group R/JE-Conv (n=166)</th>
<th>Group JE-Conv (n=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any</td>
<td>80 (38%)</td>
<td>70 (42%)</td>
<td>40 (71%)</td>
</tr>
<tr>
<td>Local</td>
<td>60 (28%)</td>
<td>50 (30%)</td>
<td>30 (54%)</td>
</tr>
<tr>
<td>Systemic</td>
<td>40 (19%)</td>
<td>30 (19%)</td>
<td>20 (36%)</td>
</tr>
<tr>
<td>Other</td>
<td>20 (10%)</td>
<td>10 (6%)</td>
<td>5 (9%)</td>
</tr>
</tbody>
</table>

Table 3. Overview of unsolicited adverse events

<table>
<thead>
<tr>
<th></th>
<th>R/JE-Acc (n=217)</th>
<th>R/JE-Conv (n=166)</th>
<th>JE-Conv (n=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any AE, % (n)</td>
<td>108 (50%)</td>
<td>69 (42%)</td>
<td>29 (52%)</td>
</tr>
<tr>
<td>At least possibly related AE, % (n)</td>
<td>49 (23%)</td>
<td>30 (18%)</td>
<td>6 (11%)</td>
</tr>
<tr>
<td>Any SAE, % (n)</td>
<td>3 (1%)</td>
<td>2 (1%)</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>At least possibly related SAE, % (n)</td>
<td>0</td>
<td>0</td>
<td>1 (2%)</td>
</tr>
</tbody>
</table>

AE, adverse event; SAE, serious adverse event.
CONCLUSION

- The JE inactivated adsorbed vaccine administered according to a 1-week, accelerated 2-dose regimen induced robust immune responses that were similar to that obtained with the conventional schedules, with a satisfactory tolerability profile.
- The JE and Rabies vaccines can be concomitantly administered without safety concerns or interfering with the immune responses against JE vaccine antigens.
- This 1 week accelerated immunization schedule provides a valid alternative schedule for the pre-exposure prophylaxis with a JE vaccine (once licensed) to individuals with imminent travel plans to JE-endemic areas.
Japanese encephalitis (Ixiaro®)

• 2013 : Ixiaro from the age of 2 months on
• CISTM 13 Maastricht : “Based on modeled data, we expect protection to last for at least 4 years in 95% of vaccinees”

Japanese encephalitis (Ixiaro®)

• The standard scheme requires 2 injections, separated by one month. Afterwards, the traveler remains boostable which means that a booster dose can be given after 12-24 months – (later boosters ? 3-5 years ?)
• When the patient was vaccinated with Jevax® previously the consensus meeting gives the advice to use two doses of Ixiaro® when Jevax® dates from five years back or more.
TBE FSME
<table>
<thead>
<tr>
<th>Wat indien de derde inenting niet tijdig werd gegeven?</th>
<th>Que faire si la troisième vaccination n’a pas été administrée à temps?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internationale experten zijn van mening dat de derde inenting gewoon gegeven kan worden tot een tijdsinterval van 5 jaar na de tweede inenting, zonder verlies van immunogeniciteit en van zonder verlies van “boostability”.</td>
<td>Des experts internationaux estiment que la troisième vaccination peut être réalisée 5 ans après la seconde vaccination, sans perte d’immunogenicité, protection et sans perte de mémoire immunitaire (boostability).</td>
</tr>
</tbody>
</table>

*Medasso / ITG Gezondheidsadviezen voor reizigers Uitgave 2014-2015*

*Medasso / IMT Conseils de santé pour voyageurs Edition 2012-2013*
<table>
<thead>
<tr>
<th>Een herhalingsinenting dient dus om de 3 jaar (eerste rappel; volgende rappels zo ouder dan 60 jaar) - 5 jaar (latere rappels) te gebeuren, maar het valt geregeeld voor dat deze herhalingsinenting niet tijdig gegeven werd, en dat de reiziger zich hiervoor pas jaren later aanziet.</th>
<th>Un rappel doit donc se faire tous les 3 ans (premier rappel; et tous les rappels chez les plus de 60 ans) - 5 ans (les rappels ultérieurs), mais il arrive régulièrement que ce rappel ne soit pas donné à temps et que le voyageur se présente après plusieurs années.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tot 5 jaar na een volledige inenting volstaat zeker een éénmalige inspuiting.</strong></td>
<td><strong>Si le délai ne dépasse pas 5 ans après une vaccination complète, une dose unique suffit certainement.</strong></td>
</tr>
<tr>
<td>Zo het langer dan 5-10 jaar geleden is, is het veiliger om volledig te hervaccineren.</td>
<td>Si l'on dépasse 5 à 10 ans, mieux vaut faire une nouvelle vaccination complète.</td>
</tr>
<tr>
<td>Personen die tijdig een rappel hebben gekregen na een volledige basisvaccinatie hebben volgens een recente studie een zeer hoge antibodenaantalen, en behoeven wellicht geen verdere rappels.</td>
<td>Les personnes qui ont reçu le rappel à temps après une vaccination de base complète ont, d’après une étude récente, des taux d’anticorps très élevés et ne requièrent probablement pas de rappel.</td>
</tr>
<tr>
<td>Wellicht is zelfs een interval tot 20 jaar mogelijk indien men in totaal reeds 4 inenting hae gekregen (recente studies).</td>
<td>Un intervalle de 20 ans est peut-être même possible, si l’on a reçu au total 4 injections (selon des études récentes). Espérons que l’avenir apportera des données supplémentaires permettant de proposer une stratégie précise.</td>
</tr>
</tbody>
</table>
PART 1
• 1.A - Vaccination for Yellow Fever
• 1.B - Malaria

PART 2
• 2.A - Other vaccinations
• 2.B - TD, other infections, ….,
• 2.C - VARIA
Quid role in travel medicine?

Racecadotril Tiorfix

& Aanpak in de eerste lijn van acute diarree bij het kind

RECENTE INFORMATIE OKTOBER 2012

- Racecadotril (Tiorfix®; hoofdstuk 3.6.4.) is een antidiarreicum dat in het buitenland gecommercialiseerd is sinds 1993;
- het gaat om een inhibitor van de enkefaalinassen (enzymen verantwoordelijk voor de afbraak van bepaalde endogene opioiden, de enkefalines), vooral ter hoogte van de darmmucosa.
- Racecadotril heeft een perifere werking met vermindering van de intestinale hypersecretie.
- De posologie vermeld in de Samenvatting van de Kenmerken van het Product (SKP) is bij volwassenen 100 mg, gevolgd door 100 mg 3 maal per dag, en bij het kind ouder dan 3 maanden 1,5 mg/kg, 3 maal per dag.
- De voornaamste ongewenste effecten zijn secundaire obstipatie en hoofdpijn.
- Racecadotril is gecontra-indiceerd bij aanwezigheid van koorts en bloederige of slijmerige ontlasting (acute dysenterie).
- In de vergelijkende studies met loperamide (een opiaatderivaat en remmer van de intestinale peristaltiek) hadden beide behandelingen een gelijkaardige doeltreffendheid, waarbij de diarree-episode slechts met een paar uur verkortte.
- Men moet voor ogen houden dat de aanpak van acute diarree vooral gebaseerd is op rehydratiemaatregelen, en dat antidiarrheica slechts een zeer beperkte plaats hebben, vooral bij jonge kinderen. De vormen voor gebruik bij kinderen zijn voorschriftelijk.
Le racécadotril (Tiorfix®; chapitre 3.6.4.) est un antidiarrhéique commercialisé à l’étranger depuis ‘93;  

- il s’agit d’un inhibiteur des enképhalinases (des enzymes responsables de la dégradation de certains opioïdes endogènes, les enképhalinines) particulièrement au niveau de la muqueuse intestinale.  
- Le racécadotril exerce une activité périphérique en diminuant l’hypersécrétion intestinale.  
- La posologie mentionnée dans le Résumé des Caractéristiques du Produit (RCP) est chez l’adulte de 100 mg suivie de 100 mg 3 x par jour, et chez l’enfant âgé de plus de 3 mois de 1,5 mg/kg, 3 x par jour.  
- Ses principaux effets indésirables consistent en de la constipation secondaire et des céphalées.  
- Le racécadotril est contre-indiqué en présence de fièvre et de selles glaireuses ou sanglantes (dysenterie aiguë).  
- Dans les études comparatives avec le lopéramide (un dérivé des opiacés, freinateur du transit intestinal), les deux traitements avaient une efficacité comparable, ne diminuant que de quelques heures l’épisode diarrhéique.  
- Il faut garder à l’esprit que la prise en charge de la diarrhée aiguë repose avant tout sur des mesures de réhydratation, et que les antidiarrhéiques n’ont qu’une place très limitée, en particulier chez les jeunes enfants. Les formes de racécadotril destinées à l’usage chez l’enfant sont soumises à prescription.

Chikungunya
Dengue

New WHO map
Hajj

19/09 – 12/10 2014

Figure 2: Stages of the Hajj

For the Hajj, pilgrims wear simple garments (white for male pilgrims, black for females) and undergo a series of rituals and ceremonies as an expression of unity, equality, and solidarity irrespective of nationality, ethnic origin, sex, and social class. Pilgrims fulfill each of the required prayer rituals by walking and observing proper movements in a particular order at several of the holy sites in Makkah, concluding at the Ka’bah. Although most pilgrims walk during the Hajj, some receive transport (eg. bus or train) and those who are unable or elderly use wheelchairs or are carried in the hands of other pilgrims.
Kingdom of Saudi Arabia Ministry of Health

Health Regulations for travellers to Saudi Arabia for Umrah & Pilgrimage (Hajj)-1435 (2014).
No change of the advice in 2014

Former slides
Hajj vaccine requirements
Extensive outbreaks of meningococcal disease among pilgrims have prompted the Saudi Arabian health authorities to introduce mandatory vaccination. Conjugate meningococcal vaccine should be considered, but the entry requirement is any tetravalent meningococcal vaccine covering serogroups A, C, Y and W135.

Varia—Hajj

Weekly epidemiological record
Relevé épidémiologique hebdomadaire

Health conditions for travellers to Saudi Arabia for the pilgrimage to Mecca (Hajj)

Editorial note

Dispositions sanitaires pour les voyageurs se rendant en Arabie saoudite pour le pèlerinage à La Mecque (Hadj)

Nota de la redaction

http://www.who.int/wer/2013/wer8832.pdf
Varia– Hajj

MEKKA

http://www.hajinformation.com/main/p3001.htm -

• meningococcal vaccine remain obligatory
• influenza vaccine remain imperatively advised

General advice for Mecca pilgrims - required/recommended vaccines

• Vaccination with a tetravalent, conjugated ACYW135 meningococcal vaccine is required to obtain a visa.

• Available vaccines in Belgium: Nimenrix® and Menveo®
• The unconjugated 4-valent meningococcal vaccine is not available anymore in pharmacy (July 2013) – it might still be available in the travel clinics and be used in pilgrims

• It remains unclear if children till the age of 2 years are obliged to be vaccinated, but it correct to vaccinate also the little children – on the other hand, see further: children under 12 yrs are discouraged to come to Mecca.
General advice for Mecca pilgrims - required/recommended vaccines

- Incompletely vaccinated individuals should update their vaccine status.
- Vaccination against the seasonal flu is recommended when available (around mid-September, the pilgrimage starts October 4th).
- Pneumococcal vaccine for the known risk groups
- Hepatitis A vaccination is recommended, depending on age and medical history.
- For journeys exceeding 3 weeks stay, a vaccination against typhoid fever may be advisable.

… & Mers
MERS-corona virus

The number of cases infected with the MERS-corona virus has recently increased in Saudi Arabia and some neighboring countries in the Middle East. These cases have also been reported in Europe, but these are not import cases from a recent stay in the Middle East. In this article we give an overview of the available information on this virus.

WHAT IS THE MERS-CORONA VIRUS?

The MERS-corona virus (MERS-CoV) is a virus that causes human respiratory infections. Infections have occurred in Saudi Arabia and some other countries in the Middle East (see table 1). These infections are often severe. The virus is related to the SARS-CoV that caused an epidemic of severe respiratory infections in Asia and Canada in 2003.

We don’t have a lot of information about this new virus yet. Camels and dromedaries supposedly play an important role in the contagion. The infection can also be transmitted from human to human, but this happens less often.

In the last few years cases of MERS have been reported in Saudi Arabia.
**Figure 1.** Epidemic Curve of MERS-CoV Cases as of 9 June 2014 (n=699)*

*Does not include 113 cases announced on MOH website on 3 June as these cases are currently undergoing verification.

**Figure 2.** Location of the laboratory-confirmed cases of MERS-CoV infection by country of presumed exposure, March 2012-8 May 2014.
Is it safe to travel to the Middle East? Does WHO recommend any travel or trade restrictions related to this new virus?

WHO does not recommend the application of any travel or trade restrictions or entry screening related to MERS-CoV.

**Promedmail - Morocco 19-6-2014**

- **Advice not to go on the Hadj … !!**

Promised advises against making pilgrimages to Saudi

Health minister urges all Moroccans not to travel Saudi Arabia due to MERS threat.

Morocco’s health minister has exhorted the country’s Muslims faithful against making pilgrimages to Saudi Arabia due to MERS threat to the lives of almost 300 people.

Last week, the health ministry urged the risk and the fail to proceed any planned pilgrimages and made available to help them with information about the health risk from the virus.

Speaking in parliament Tuesday, Moroccan health minister adjourned the ministry’s advice, advising it all Moroccans planning the Hajj this year.
Because of the MERS-Cov:
The Saudi Ministry of Health recommends that people:

- aged over 65 years and
- those with chronic diseases (e.g. heart disease, kidney disease, respiratory disease, diabetes) and
- pilgrims with immune deficiency (congenital and acquired),
- malignant and
- terminal illnesses,
- pregnant women and
- children aged under 12 years

planning to come for Hajj and Umra this year, to postpone the performance of the Hajj and Umra for their own safety.
International travel and health

World - travel advice on MERS-CoV for pilgrimages

World Health Organization travel advice on MERS-CoV for pilgrimages
3 June 2014

I. Introduction
As of May 2014, more than 635 cases of Middle East respiratory syndrome coronavirus (MERS-CoV) have been reported to WHO.

The virus appears to be circulating widely throughout the Arabian Peninsula and most MERS cases have been reported by the Kingdom of Saudi Arabia. While most cases have occurred among residents, some cases have occurred among visitors. Based on currently available information, the overall risk for visitors to acquire MERS infection appears to be low.

The currently known epidemiological patterns indicate some infections occur in communities. Cases detected in the community may arise from contact with infected animals or unprocessed products from infected animals, from person-to-person transmission, or both.
Ebola in Guinée-Conakry, Sierra Leone en Liberia - juli 2014

Momenteel is er een ebola-epidemie in Guinée-Conakry, Sierra Leone en Liberia. Tot op heden (30 juni 2014) zijn er al 715 gevalen gemeld, waarvan er 667 een dodelijk afloop kenden. Dit is de ergste ebola-epidemie die ooit beschreven is, geleden het hoge aantal gevluchten en uitrusten, maar ook omdat de geografische spreiding van de gevluchten. Djembers ligt de situatie op dit ogenblik niet onder controle. Het is ook de eerste keer dat gevluchten vastgesteld zijn in de hoofdsteden van de getroffen landen, waar normaal ebola-epidemische zich afspelen in sociale uitgebreide gebieden. (Noot bene: het gaat hier niet over Guinée-Bissau of Guinée Equatoriale)
Schistosomiasis

Er bestaat geen bewezen doeltreffende preventieve medicatie noch vaccin.

Ter plaatse wordt nogal eens geadviseerd om na mogelijke blootstelling een dosis praziquantel in te nemen als post-exposures profilaxie.

Dit geeft echter een volkomen misplaatst gevoel van zekerheid, omdat praziquantel niet werkzaam is op de jonge wormen.

In een artikel in Emerging Infectious Diseases van September 2006 “Early Neuroschistosomiasis Complicating Katayama Syndrome” (http://wwwnc.cdc.gov/eid/article/12/9/06-0313_article.htm) beschrijven we hoe een schistosomenbevattende met potentiële ernstige gevolgen is opgetreden ondanks de inname van een dosis praziquantel 14 dagen na een zwempartij in Lake Malawi.

Il n’existe pas de médication préventive efficace prouvée, ni de vaccin.

Sur place, certains conseillent, après une exposition possible, de prendre une dose de praziquantel, en tant que prophylaxie post-exposition.

Cependant, cela confère un faux sentiment de sécurité, car le praziquantel n’est pas efficace contre les jeunes vers.

Dans un article paru dans Emerging Infectious Diseases en septembre 2006, nous avons décrit un cas de neuroschistosomiasis compliquée du syndrome katayama (http://wwwnc.cdc.gov/eid/article/12/9/06-0313_article.htm), dans lequel nous avons évoqué une infection à schistosomes pouvant avoir des conséquences graves s’il n’est pas déclaré, malgré la prise d’une dose de praziquantel, 14 jours après une baignade dans le lac Malawi.

Rapid Communications

Schistosoma haematobium infections acquired in Corsica, France, August 2013

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Further studies are needed to identify the location of transmission sites, the focus and seasonality of transmission of S. haematobium in southern Corsica and to determine the origins of its introduction. Results of molecular genetic studies to identify the origin of the parasite and malacological studies to study the biology of the vector snails as well as the parasite’s presence in the vector snails are pending.
PART 1
• 1.a - Vaccination for Yellow Fever
• 1.b - Malaria

PART 2
• 2.A - Other vaccinations
• 2.B - TD, other infections, .....
• 2.C - VARIA

The place of new oral anticoagulants in travel medicine

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Summary New oral anticoagulants are increasingly used instead of vitamin K antagonists or low molecular weight heparins. Hence, more individuals treated with new oral anticoagulants will seek travel medicine advice. Travel medicine experts should therefore become familiar with new oral anticoagulants and with their impact and use in travel medicine. This review...
### Deep Venous Thrombosis

| De rol van de *nieuwere orale antistollingsmiddelen* 'NOACs', die steeds meer worden ingeschateld, zal in de komende jaren wel duidelijker worden. | Le rôle des nouveaux anticoagulants oraux « NOAC », qui sont de plus en plus prescrits, se précisera dans les années qui viennent. |
| De inname van bub. Rivaroxaban 10 mg éénmaal of Apixaban 5 mg in 2 doses met 12 uur tussen (bij reizen langer dan 24 uur is een extra inname nodig) is een prima alternatief voor subcutane toediening van heparines met laagmoleculair gewicht (LMWH). | Par exemple en termes de posologie. Une dose unique de rivaroxaban 10 mg ou deux prises d’apixaban 5 mg avec un intervalle de 12 heures (pour des voyages de plus de 24 heures, une dose supplémentaire sera nécessaire) sont une excellente alternative à l’administration sous-cutanée d’héparine de bas poids moléculaire (HBPM). |
| De prijs is ook goedkoper dan LMWH maar gezien er geen terugbetaling is voor de indicatie van preventie van ‘traveller’s thrombosis’ komt het voor patiënt wel duurder. De meeste reizigers prefereren evenwel perorale therapie, wat ook handiger is dan spuitjes op reis. | Leur prix est également inférieur à celui des HBPM mais comme il n’y a pas de remboursement pour l’indication de la prévention de la «thrombose du voyageur», cela revient plus cher pour le patient. Cependant, la plupart des voyageurs préfèrent un traitement par voie orale, ce qui est également plus commode en voyage que les seringues. |

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### Itchy skin problems during travel

| Om te verhinderen dat men dergelijke vreemde *fors* jeukende insectenbitten te wondjes openknabbelt wordt een krachtige zelf op basis van corticoiden aangeraden in de reisapotheek. — bij voorkeur (meestal maar eenmaal) ’s avonds aan te brengen om bijkomende fotoallergische reactie door zonlicht te vermijden. — niet of zorgvuldig in het gelaat. | Pour éviter que des piqûres *d’insectes qui démangent fortement* ne soient grattées au point de provoquer une plaie ouverte, un onguent puissant à base de corticoides est recommandé dans la pharmacie de voyage. - il sera appliqué (généralement une seule fois) de préférence le soir, afin d’éviter les réactions photo allergiques au soleil. - ne pas en appliquer sur le visage ou bien, très parcimonieusement. |

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*Medasso-Headlines Gezondheidsadviezen voor reizigers Uitgave 2014-2015*
*Medasso-Headlines Conseils de santé pour voyageurs Edition 2012-2013*
Commitment travel clinics waiting lists & capacity last minute travelers?

- Waiting time max 2 weeks?
- Ability to help as soon as possible last minute travelers?
Handboek vaccinaties
Deel B Infectieziekten en vaccinaties

- Rudy Burgmeijer, Karel Hoppenbrouwers, Fons Van Gompel (red.)
- Autumn 2013.

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