


GEBELİKTE AŞILAMA

Prof. Dr. Ener Çağrı DİNLEYİCİ

2 Haziran 2017
İSTANBUL




GEBELİKTE AŞILAMA-2027

EMEKLİ Prof. Dr. Ener Çağrı DİNLEYİCİ

2 Haziran 2027
İSTANBUL


Ayın en çok
konuşanı :)

ERİŞKİN BAĞIŞIKLAMA KONGRESİ 2027...

ener çağrı dinleyici

ERİŞKİN BAĞIŞIKLAMA KONGRESİ 2027...

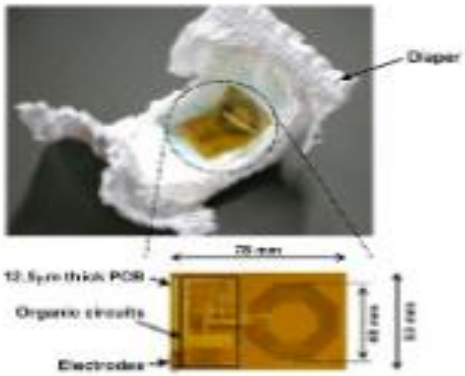
IBM's Watson is better at diagnosing cancer than human doctors

TECHNOLOGY / 11 FEBRUARY 13 / by IAN STEADMAN

IBM's **Watson** -- the language-fluent computer that beat the best human champions at a game of the US TV show *Jeopardy!* -- is being turned into a tool for medical diagnosis. Its ability to absorb and analyse vast quantities of data is, IBM claims, better than that of human doctors, and its deployment through the cloud could also reduce healthcare costs.

Watson's successful diagnosis rate for lung cancer is 90 percent, compared to 50 percent for human doctors.

ERİŞKİN BAĞIŞIKLAMA KONGRESİ 2027...

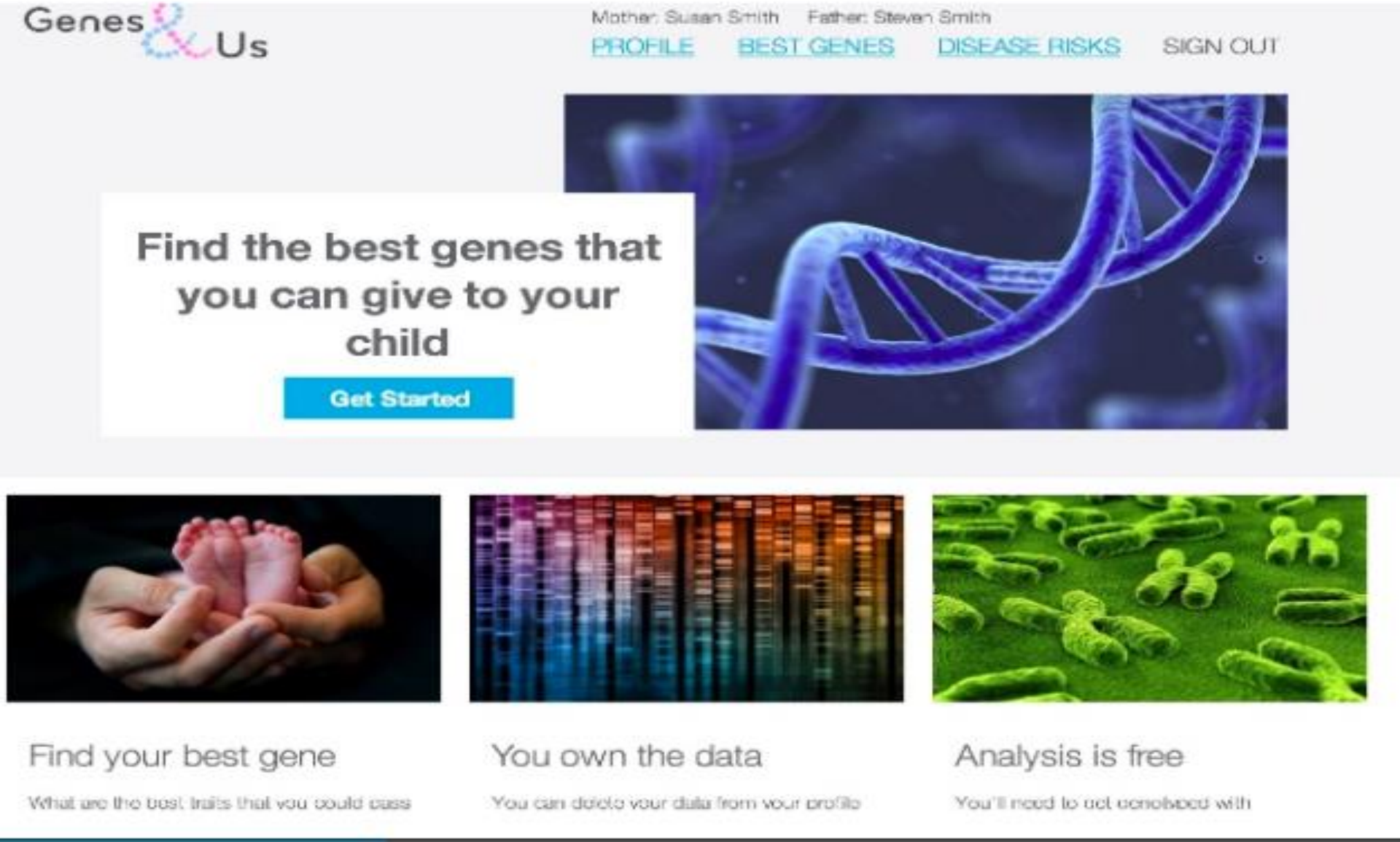


ERİŞKİN BAĞIŞIKLAMA KONGRESİ 2027...

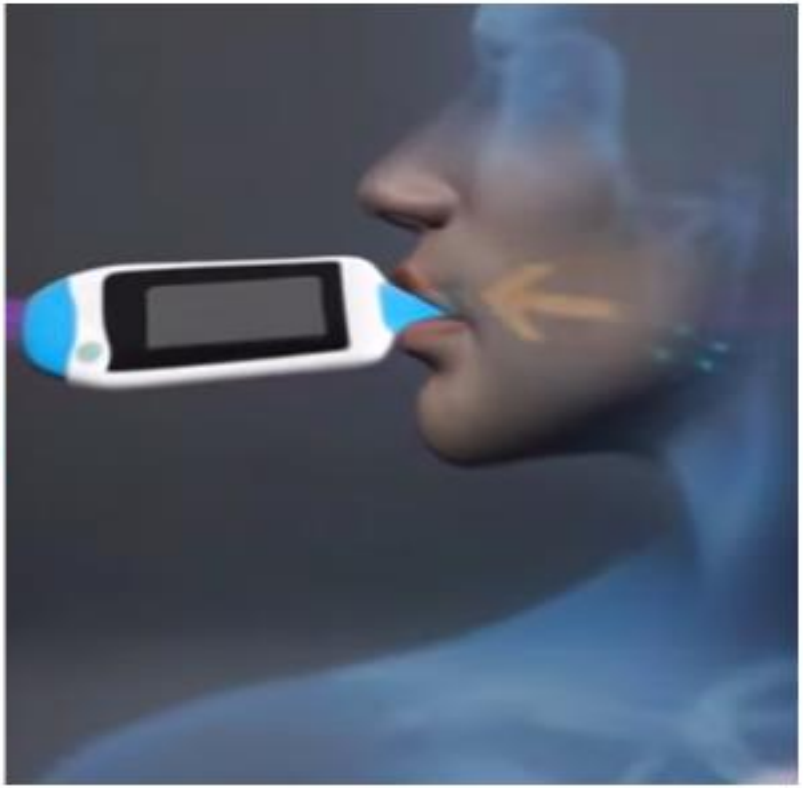
ener çağrı dinleyici

ERİŞKİN BAĞIŞIKLAMA KONGRESİ 2027...

ener çağrı dinleyici



ERİŞKİN BAĞIŞIKLAMA KONGRESİ 2027...



İsrailli bir kimya mühendisi olan Hossam Haick ve çalışma arkadaşları tarafından yapılan ve ACS Nano'da yayınlanan makaleye göre; Na-Nose isimli *yapay zekalı nano dizilim*, 17 ayrı hastalığı tespit edebiliyor. Kimyasal bileşiklerin tespiti ve ölçülmesi için deneyde, moleküler olarak modifiye edilmiş altın nanopartiküllerine ve tek duvarlı karbon nanotüplerinden rastgele örülmüş bir ağa dayanan *akıllı nano dizilim* kullanılıyor.

YAŞAMIN ERKEN DÖNEMİNDE KORUNMA STRATEJİLERİ INMIS

Toplumsal Bağışıklığın Sağlanması

Ergen ve Erişkin Aşılama

Mevcut aşıların etkin kullanılması

Yenidoğan aşılaması

Maternal İmmünizasyon

Gebelerde aşılama

2030 HEDEFLERİ MDG → SDG

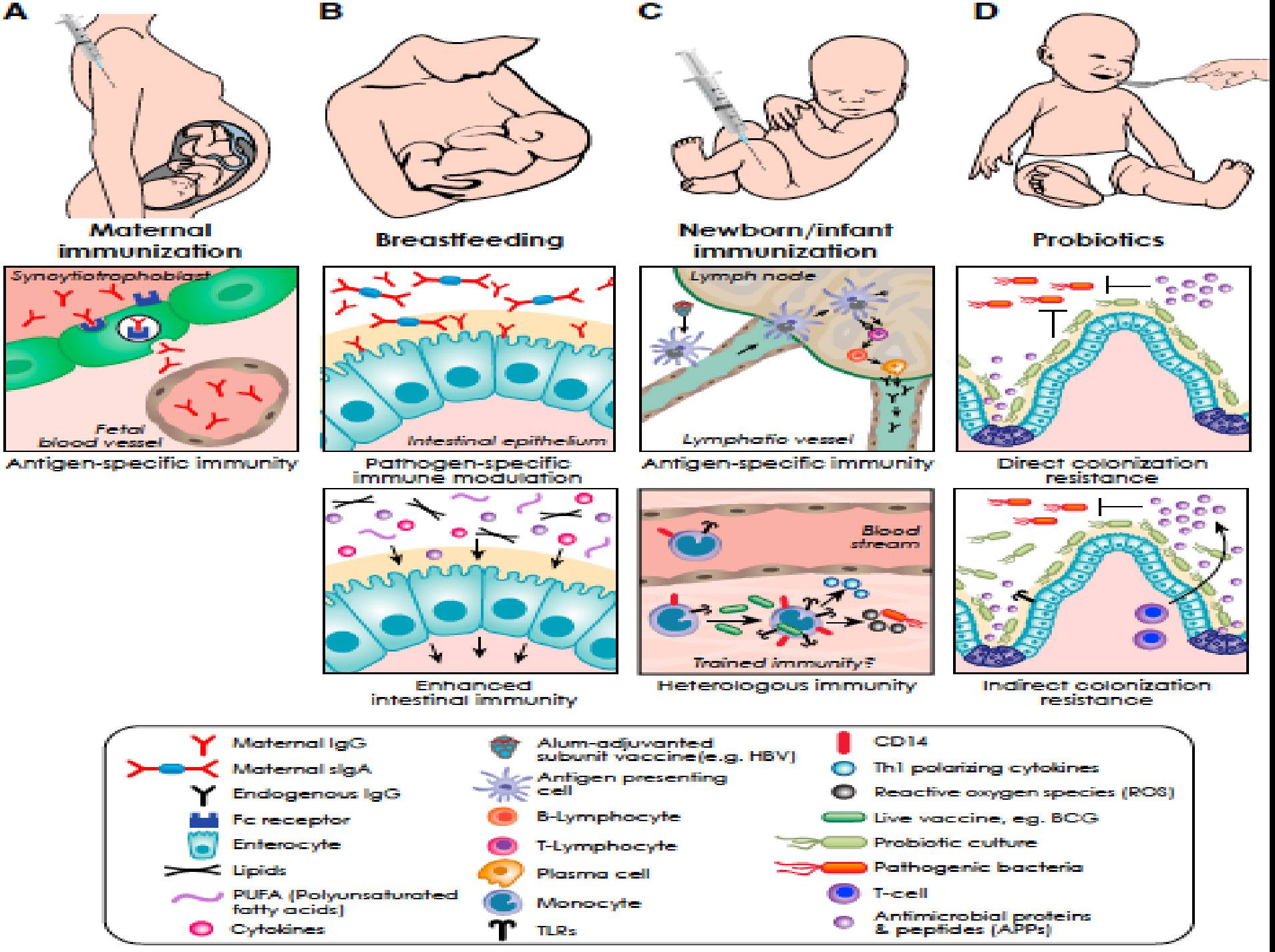
Viewpoint

Strengthening maternal immunisation to improve the health of mothers and infants

Published Online
June 29, 2016
http://dx.doi.org/10.1016/
S0140-6736(16)30882-0

Department of Pediatrics, Wake Forest School of Medicine, North Carolina, USA (Prof J S Abramson MD); **and Institute for Global Health, University College London, London, UK** (E Mason MBChB)

Correspondence to:
Prof Jon S Abramson,
Department of Pediatrics,
Wake Forest School of Medicine,
Medical Center Blvd,
Winston-Salem, NC 27157 USA
jabrams@wakehealth.edu


A
B
C
D
Maternal immunization
Breastfeeding
Newborn/infant immunization
Probiotics
Syncytiotrophoblast
Fetal blood vessel
Antigen-specific immunity
Intestinal epithelium
Pathogen-specific immune modulation
Lymph node
Lymphatic vessel
Antigen-specific immunity
Direct colonization resistance
Enhanced intestinal immunity
Blood stream
Trained immunity?
Heterologous immunity
Indirect colonization resistance
Maternal IgG
Maternal sIgA
Endogenous IgG
Fc receptor
Enterocyte
Lipids
PUFA (Polyunsaturated fatty acids)
Cytokines
Alum-adjuvanted subunit vaccine(e.g. HBV)
Antigen presenting cell
B-Lymphocyte
T-Lymphocyte
Plasma cell
Monocyte
TLRs
CD14
Th1 polarizing cytokines
Reactive oxygen species (ROS)
Live vaccine, eg. BCG
Probiotic culture
Pathogenic bacteria
T-cell
Antimicrobial proteins & peptides (APPs)

GEBELİKTE AŞILAMA

Taylor & Francis
Taylor & Francis Group

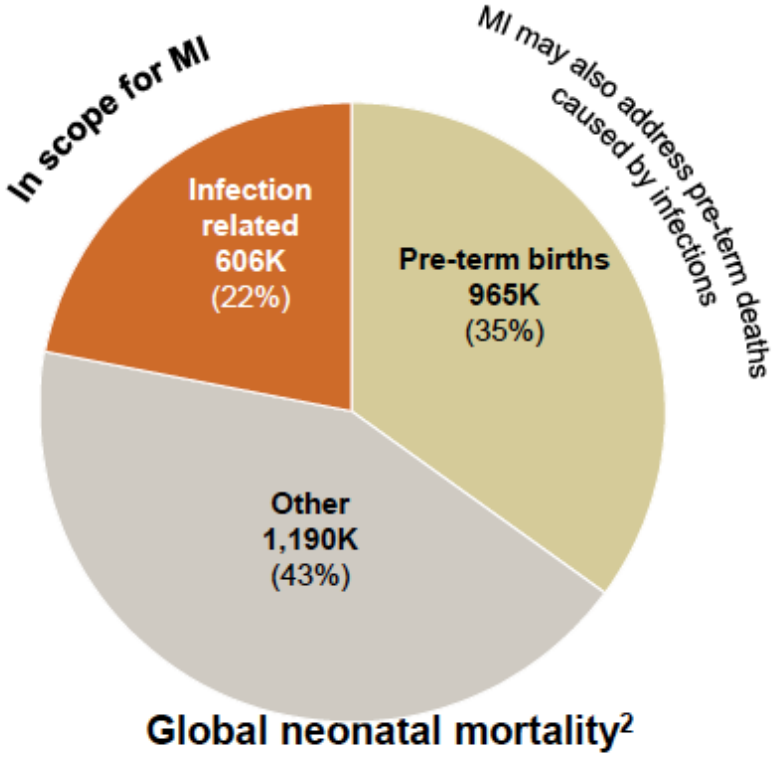
Human Vaccines & Immunotherapeutics

ISSN: 2164-5515 (Print) 2164-554X (Online) Journal homepage: http://www.tandfonline.com/loi/khvi20

Vaccines in pregnancy: The dual benefit for pregnant women and infants

H. Marshall, M. McMillan, R. M. Andrews, K. Macartney & K. Edwards

Potential Benefits of Maternal Immunization (MI)



MI **may protect infants ≤5-mo** against infection-related deaths

MI can have an **impact on maternal morbidity and mortality**

MI may also prevent a portion of **infection-related stillbirths** (10 – 50%[1] of the overall stillbirths)

GEBELİKTE AŞILAMA

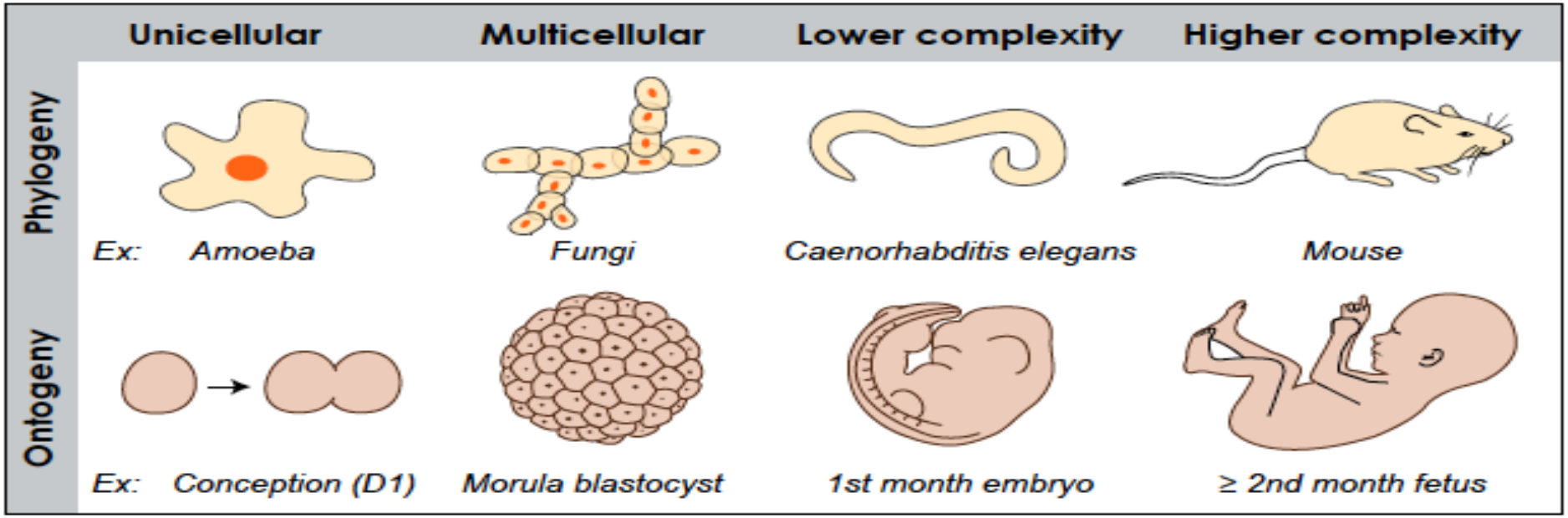
CellPress

Immunity
Review

Protecting the Newborn and Young Infant from Infectious Diseases: Lessons from Immune Ontogeny

Tobias R. Kollmann,[1,*] Beate Kampmann,[2] Sarkis K. Mazmanian,[3] Arnaud Marchant,[5,6] and Ofer Levy[4,6,*]
[1]Division of Infectious Disease, Department of Pediatrics, University of British Columbia, Vancouver, Canada and BC Children's Hospital 938 W 28th Ave, A5-175, Vancouver, BC V5Z4H4
[2]Centre of International Child Health, Department of Paediatrics, Imperial College London, UK and MRC Unit The Gambia, West Africa
[3]Division of Biology and Biological Engineering, California Institute of Technology, 1200 E California Bl. (Mailcode: 156-29), Pasadena CA 91125, USA
[4]Department of Medicine, Division of Infectious Diseases, Precision Vaccines Program, Boston Children's Hospital & Harvard Medical School, Boston, MA, USA
[5]Institute for Medical Immunology, Université Libre de Bruxelles, 6041 Gosselies, Belgium
[6]Co-senior author
*Correspondence: tkollm@mac.com (T.R.K.), ofer.levy@childrens.harvard.edu (O.L.)
http://dx.doi.org/10.1016/j.immuni.2017.03.009

GEBELİKTE AŞILAMA



Cell Autonomous Innate Immunity

Independent of other cells; Compartmentalization within cell

Nutritional Innate Immunity

Communication amongst cells; No cells specialized in host defense

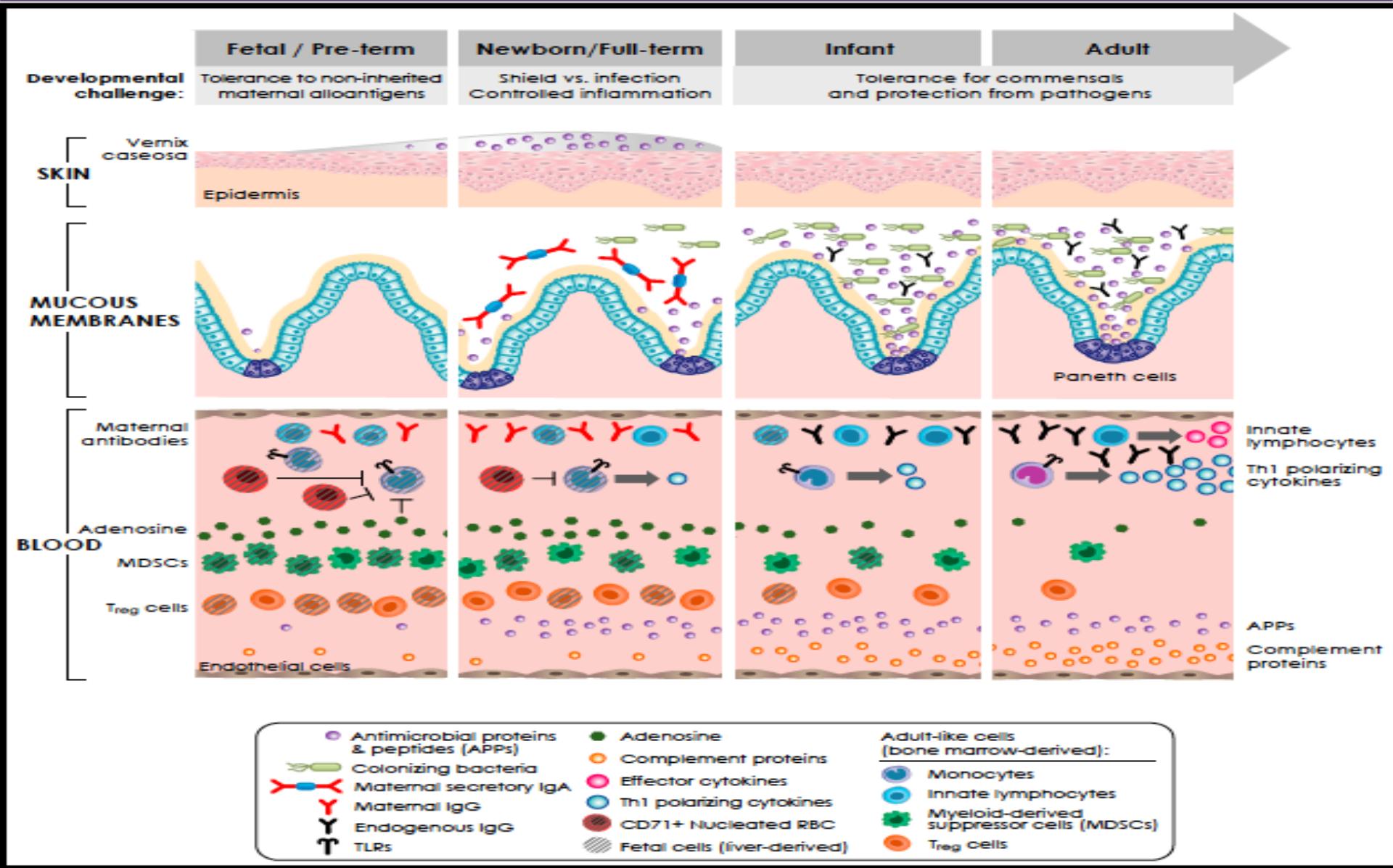
Leukocyte-based Innate Immunity

Cells specialized in host defense

Antigen-specific Adaptive Immunity

Specialized cells & tissues

GEBELİKTE AŞILAMA



MATERNAL ANTİKORLAR

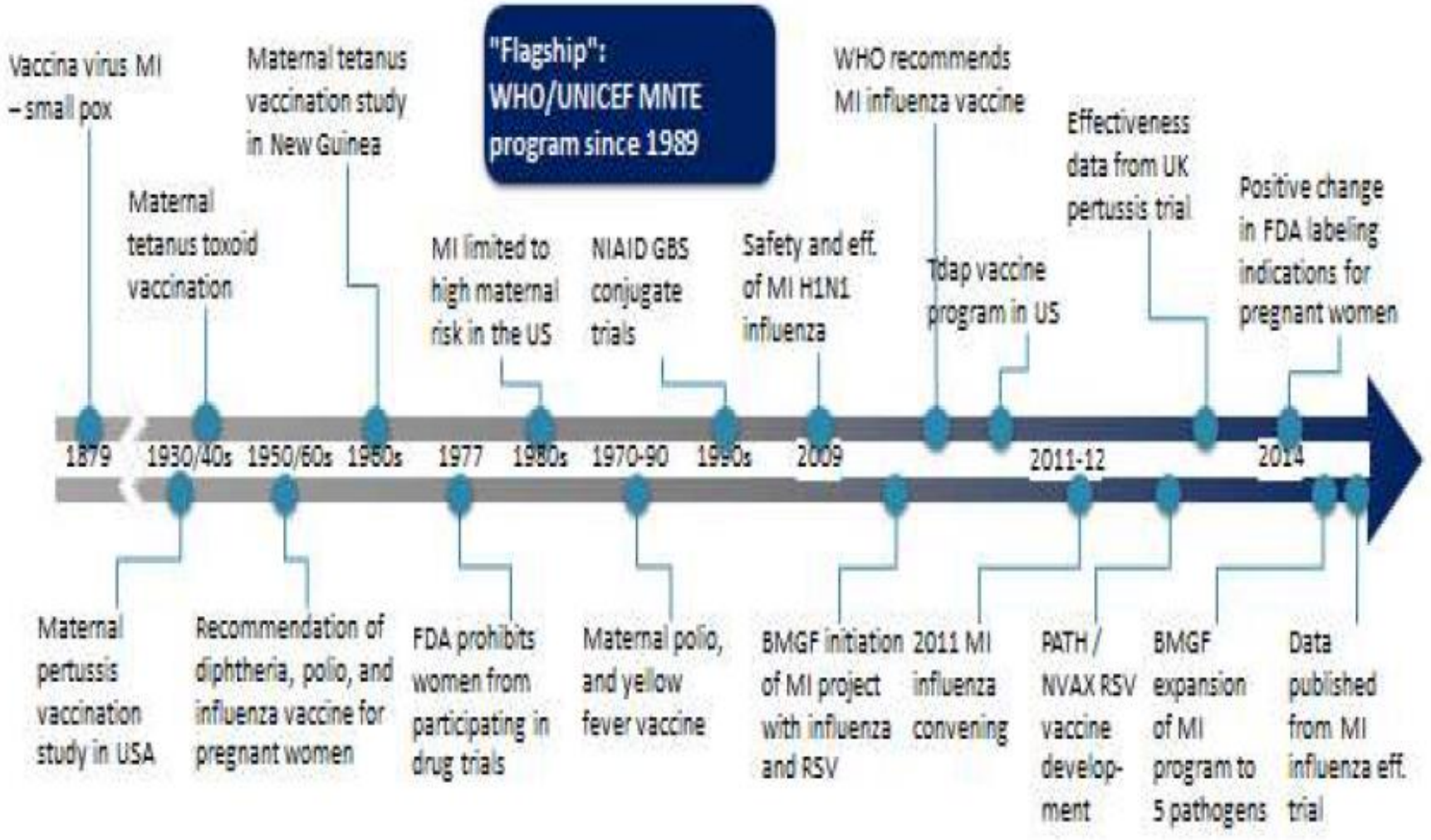
- Gebelik immün sistemin baskılandığı bir dönem değil, gebeliğe bağlı kendini adapte ettiği bir süreçtir.
  - Hormonlar, genetik ve çevresel faktörler etkili
  - Th2/Th1 ilişkili sitokin profili
  - Treg aktivitesinde artma, Th17 aktivitesinde azalma
- Gebelikte anne-fetüs arasında dinamik bir ilişki var.
- Plasenta yapısı ve fonksiyonları belirleyici
- Gebelikte sıtma, toksoplazma ve viral enfeksiyonlara duyarlılık artışı mevcut

MATERNAL ANTİKORLAR

- Kordon kanı antikor düzeyi maternal antikor düzeyi ile ilişkilidir ve yüksek antikor düzeyleri uzun süreli koruma ile ilişkilidir.

- **Gestasyon haftası**
- **Doğum zamanı ile aşılama arasında geçen zaman**
- **Doğum anında maternal antikor miktarı**
- **Plasenta anomalileri, enfeksiyonları**

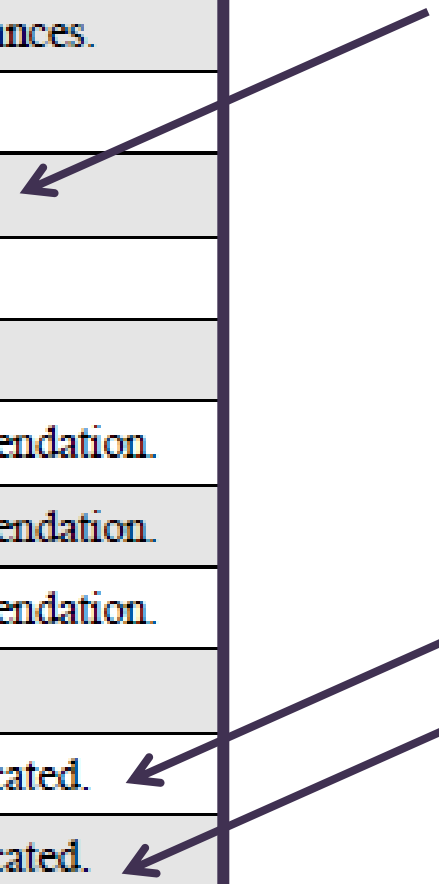
GEBELİKTE AŞILAMA



GEBELİKTE AŞILAMA

AŞI	Anne için fayda	Fetus için fayda	Yenidoğan için fayda
Tetanoz	+ +	+ +	+ +
Influenza	+ +	+ +	+ +
Hepatit B	+	-	+
Boğmaca	+	?	+
GBS	?	?	+
RSV	-	-	+
Meningokok	+	?	+
Pnömokok	+	?	+
CMV	+	+	-
Malaria	+	+	+

Routinely Recommended Vaccines	
Vaccine	**General Recommendation for Use in Pregnant Women**
Hepatitis A	May be used if benefit outweighs risk.
Hepatitis B	Recommended in some circumstances.
Human Papillomavirus	Not recommended.
Influenza (Inactivated)	Recommended.
Influenza (LAIV)	Contraindicated.
MMR	Contraindicated.
MCV4	Inadequate data for specific recommendation.
PCV13	Inadequate data for specific recommendation.
PPSV23	Inadequate data for specific recommendation.
Polio	May be used if needed.
Td	Should be used if otherwise indicated.
Tdap	Should be used if otherwise indicated.
Varicella	Contraindicated.
Zoster	Contraindicated.



GEBELİKTE AŞILAMA ÇALIŞMALARI

Vaccine 31 (2013) 4274–4279

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Research on vaccines during pregnancy: Protocol design and assessment of safety☆,☆☆

Flor M. Munoz[a,*], Jeanne S. Sheffield[b], Richard H. Beigi[c], Jennifer S. Read[d], Geeta K. Swamy[e], Indira Jevaji[f,1], Sonja A. Rasmussen[g], Kathryn M. Edwards[h], Kimberly B. Fortner[i], Shital M. Patel[j], Catherine Y. Spong[k], Kevin Ault[l], R. Philips Heine[e], Mirjana Nesin[m]

GEBELİKTE AŞILAMA ÇALIŞMALARI

ARTICLE IN PRESS

Vaccine xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Guideline for collection, analysis and presentation of safety data in clinical trials of vaccines in pregnant women

Christine E. Jones [a], Flor M. Munoz [b], Hans M.L. Spiegel [c], Ulrich Heininger [d], Patrick L.F. Zuber [e], Kathryn M. Edwards [f], Philipp Lambach [g], Pieter Neels [h], Katrin S. Kohl [i], Jane Gidudu [j], Steven Hirschfeld [k], James M. Oleske [l], Najwa Khuri-Bulos [m], Jorgen Bauwens [n], Linda O. Eckert [o], Sonali Kochhar [p], Jan Bonhoeffer [d], Paul T. Heath [a,*], The Brighton Collaboration Immunization in Pregnancy Working Group [1]

GEBELİKTE AŞILAMA ÇALIŞMALARI

G Model
JVAC-17470; No. of Pages 7

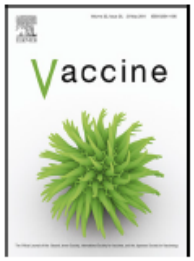
ARTICLE IN PRESS

Vaccine xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine



Maternal death: Case definition and guidelines for data collection, analysis, and presentation of immunization safety data☆

M. Patwardhan[a,*], L.O. Eckert[b], H. Spiegel[c], F. Pourmalek[d], C. Cutland[e], S. Kochhar[f], B. Gonik[a], The Brighton Collaboration Maternal Death Working Group[1]

[a] Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, USA
[b] Department of Obstetrics and Gynecology, University of Washington, Seattle, WA, USA
[c] Henry Jackson Foundation, Bethesda, MD, USA
[d] School of Population and Public Health, University of British Columbia, Vancouver, British Columbia, Canada
[e] Medical Research Council: Respiratory and Meningeal Pathogens Research Unit, Johannesburg, Department of Science and Technology National Research Foundation, Vaccine Preventable Diseases, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa
[f] Global Healthcare Consulting, India

GEBELİKTE AŞILAMA ÇALIŞMALARI

G Model
JVAC-17472; No. of Pages 12

ARTICLE IN PRESS

Vaccine xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Stillbirth: Case definition and guidelines for data collection, analysis, and presentation of maternal immunization safety data☆

Fernanda Tavares Da Silva[a], Bernard Gonik[b], Mark McMillan[c], Cheryl Keech[d], Stephanie Dellicour[e], Shraddha Bhange[f], Mihaela Tila[g], Diana M. Harper[h], Charles Woods[h], Alison Tse Kawai[i], Sonali Kochhar[j], Flor M. Munoz[k,*], The Brighton Collaboration Stillbirth Working Group[1]

GEBELİKTE AŞILAMA

- Gebelikte aşı yan etki bildirim merkezleri
  - VAERS – Vaccine Adverse Event Reporting System (CDC)
  - VSD – Vaccine Safety Data Link
  - Pregnancy Registries
  - VAMPSS – Vaccines and Medications in Pregnancy Surveillance System (US DHHS)
  - FDA Medication Exposure in Pregnancy Risk Evaluation Program
  - PRAMS – Pregnancy Risk Assessment Monitoring System (CDC)

GEBELİKTE AŞILAMA

HUMAN VACCINES & IMMUNOTHERAPEUTICS
2016, VOL. 12, NO. 8, 2010–2016
http://dx.doi.org/10.1080/21645515.2016.1175697

Taylor & Francis
Taylor & Francis Group

RESEARCH PAPER

OPEN ACCESS

A global survey of adverse event following immunization surveillance systems for pregnant women and their infants

Christine Cassidy[a], Noni E. MacDonald[b,c], Audrey Steenbeek[a,c], Justin R. Ortiz[d], Patrick L. F. Zuber[d], and Karina A. Top[b,c]

[a]School of Nursing, Faculty of Health Professions, Dalhousie University, Halifax, Nova Scotia, Canada; [b]Department of Pediatrics, Dalhousie University, Halifax, Nova Scotia, Canada; [c]Canadian Center for Vaccinology, IWK Health Center, Halifax, Nova Scotia, Canada; [d]Initiative for Vaccine Research, World Health Organization, Geneva, Switzerland

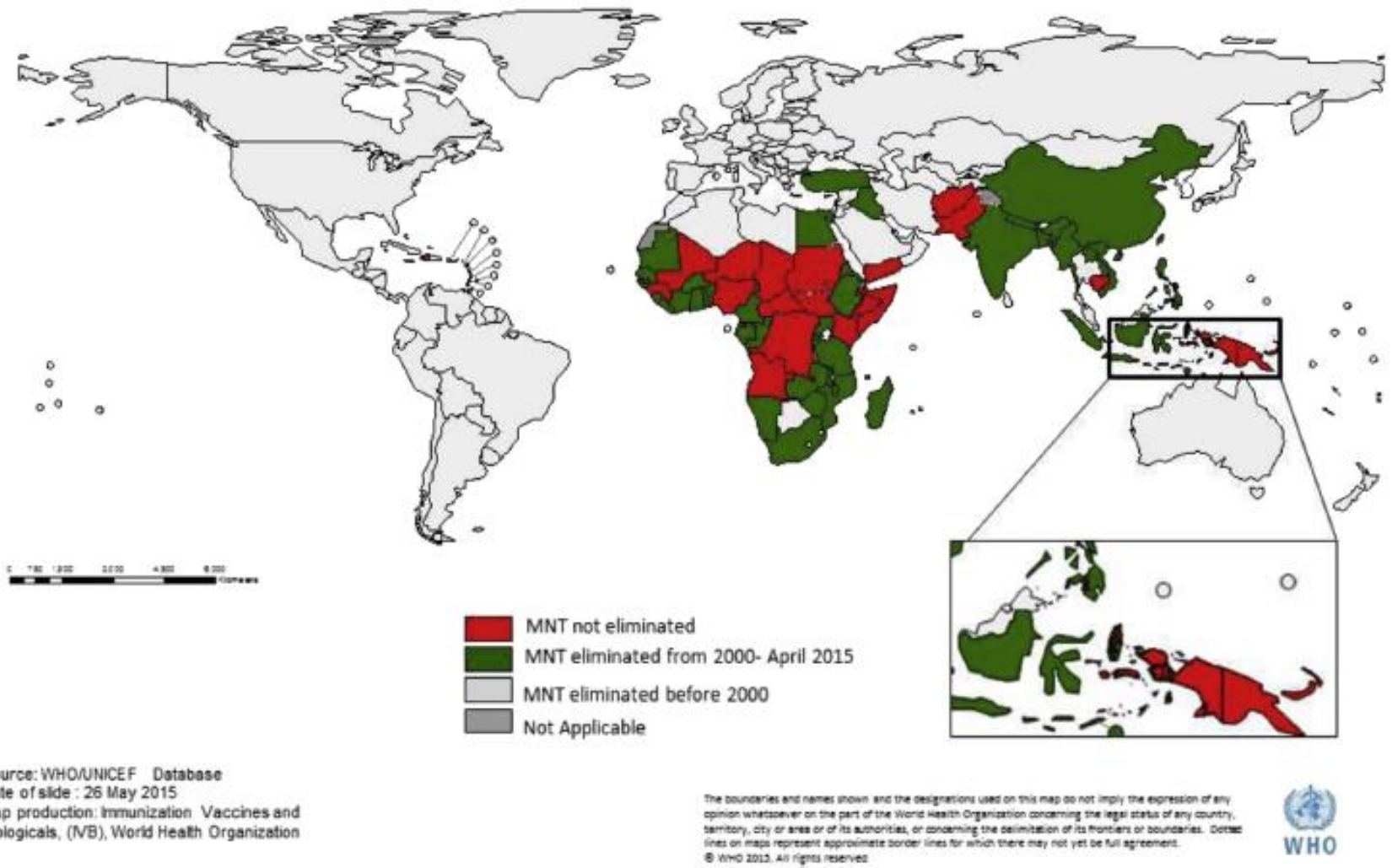


Figure 1 Elimination of maternal and neonatal tetanus (MNT) by 2015. Reprinted with permission from the World Health Organization.[49]

İNFLUENZ

- İnfluenza
  - Morta
- Astma ve
  riskini 2-
- AOM ve
  yazılımını
- 6 aydan
  - **Anne**

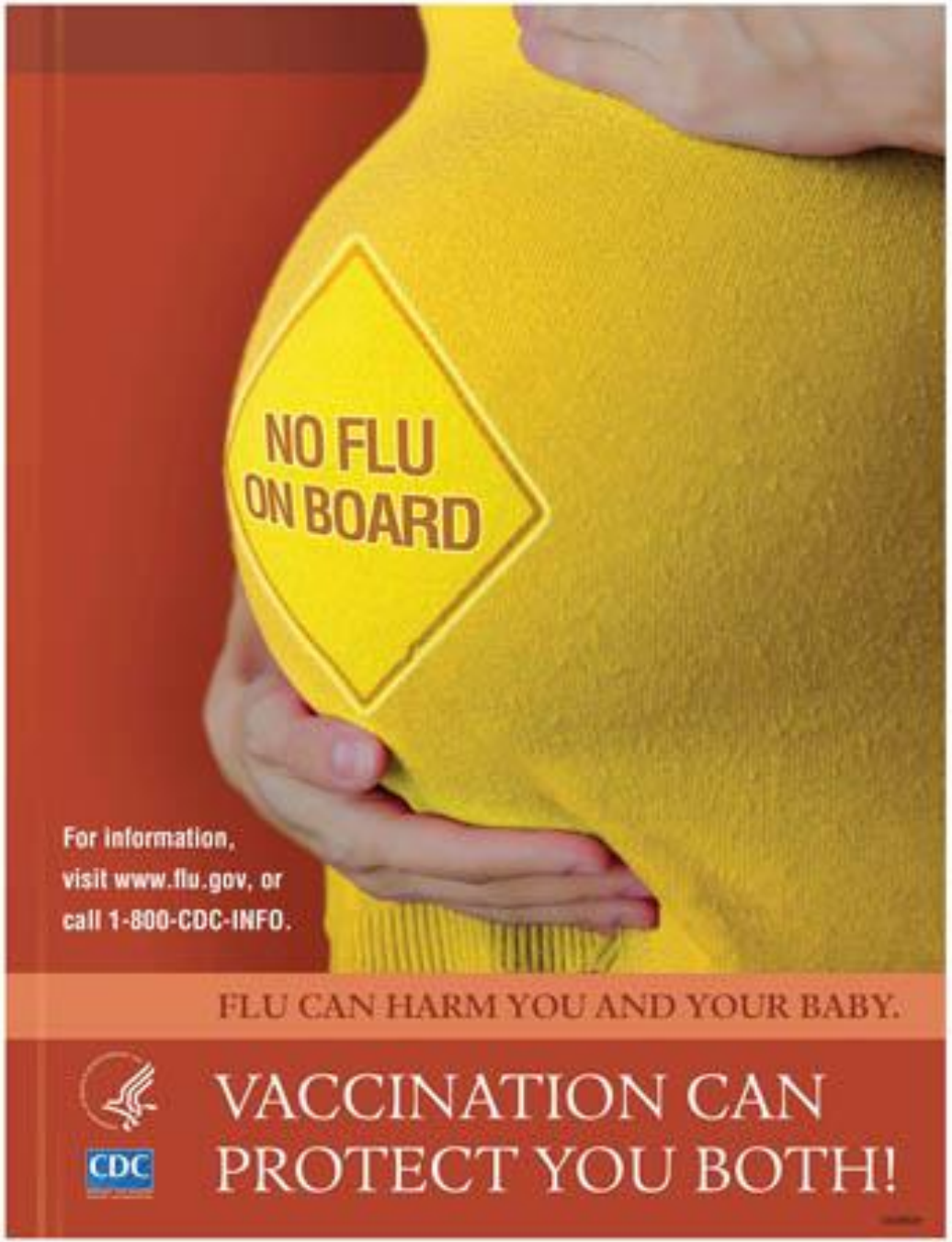
yüksek d
insid
zamanın

ış sık

de yatış

tibiyotik

luğu,
eksiyonu
iyon
zalttığı



GEBELİKTE İNFLUENZA AŞISI

- **ACIP 2014: İNAKTİF İNFLUENZA AŞISI tüm gebelere trimestere bakılmaksızın influenza mevsiminde önerilmektedir.**
  - ABD 1950-1994: Riskli gebelerde aşılama
  - 1997: Tüm gebelere 2-3.trimesterde
  - 2007: İnfluenza mevsiminde tüm trimesterlerde
  - 2005: DSÖ önerisi
  - 2012: DSÖ ve SAGE Gebelikte influenza aşısını öncelikli aşı uygulaması
  - ACOG: prenatal takibin olmazsa olmaz önerileri arasında
- Gebelikte aşılama yapılmadı ise postpartum aşılama
- Emzirme kontrendikasyon oluşturmamaktadır.

GEBELİKTE İNFLUENZA AŞISI

- VAERS: 2000-2003 yılları arasında 2 milyon gebede infleunza aşısı uygulanmış, öngörülmeyen bir yan etki gözlenmemiş.
- VAERS: 1990-2009 yılları arasında ~11.8 milyon gebe aşılanmış, öngörülmeyen yan etki ya da gebelik komplikasyonu tanımlanmamış
- VAERS: 2009-2010 pandemik H1N1 aşılaması sırasında öngörülmeyen yan etki ya da gebelik komplikasyonu tanımlanmamış

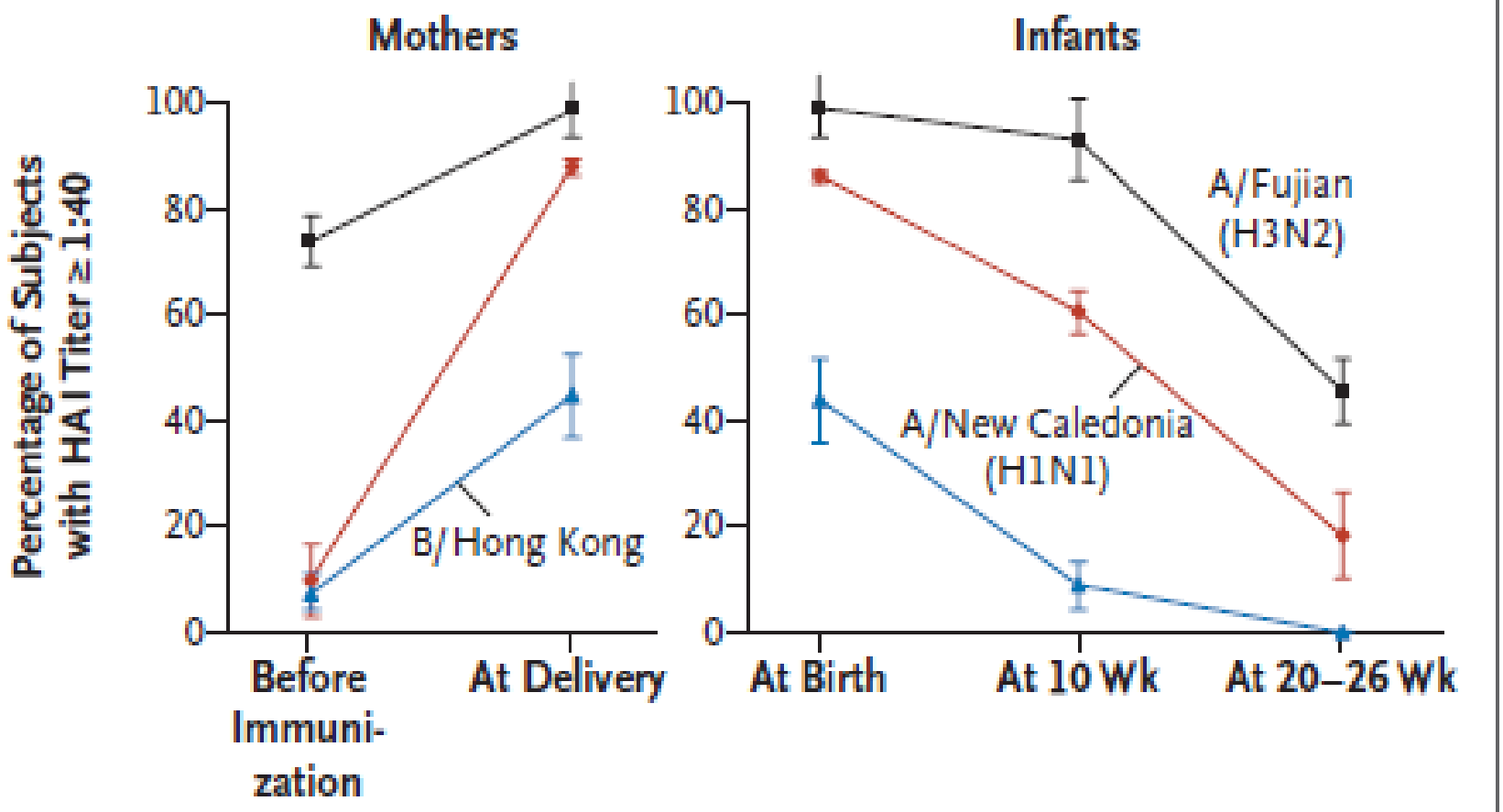
Pool V and Iskander J. *Am J Obstet Gynecol* 2006;
Moro et al. Am J Obstet Gynecol 2010; Moro et al. Am J Obstet Gynecol 2011

GEBELİKTE İNFLUENZA AŞISI

- Norwegian National Registries
- 2009-2010 arasında 113.331 gebe
  - %54'ü 2-3. trimesterde Pandemrix ile aşılı
- Fetal ölüm (n=492, 1000'de 4.3, pandemi dönemi dışında 1000'de 4.1)
- Aşılama ile gebelikte influenza tanısında %70 azalma
- İnfluenza olgularında fetal ölüm riski 1.9 kat artmış
- Aşılama ile fetal ölüm %12 azalma
- Aşılama ile preterm doğum, düşük doğum ağırlığı, düşük APGAR arasında ilişki yok

Haberg et al. NEJM 2013

GEBELİKTE İNFLUENZA AŞISI



GEBELİKTE İNFLUENZA AŞISI

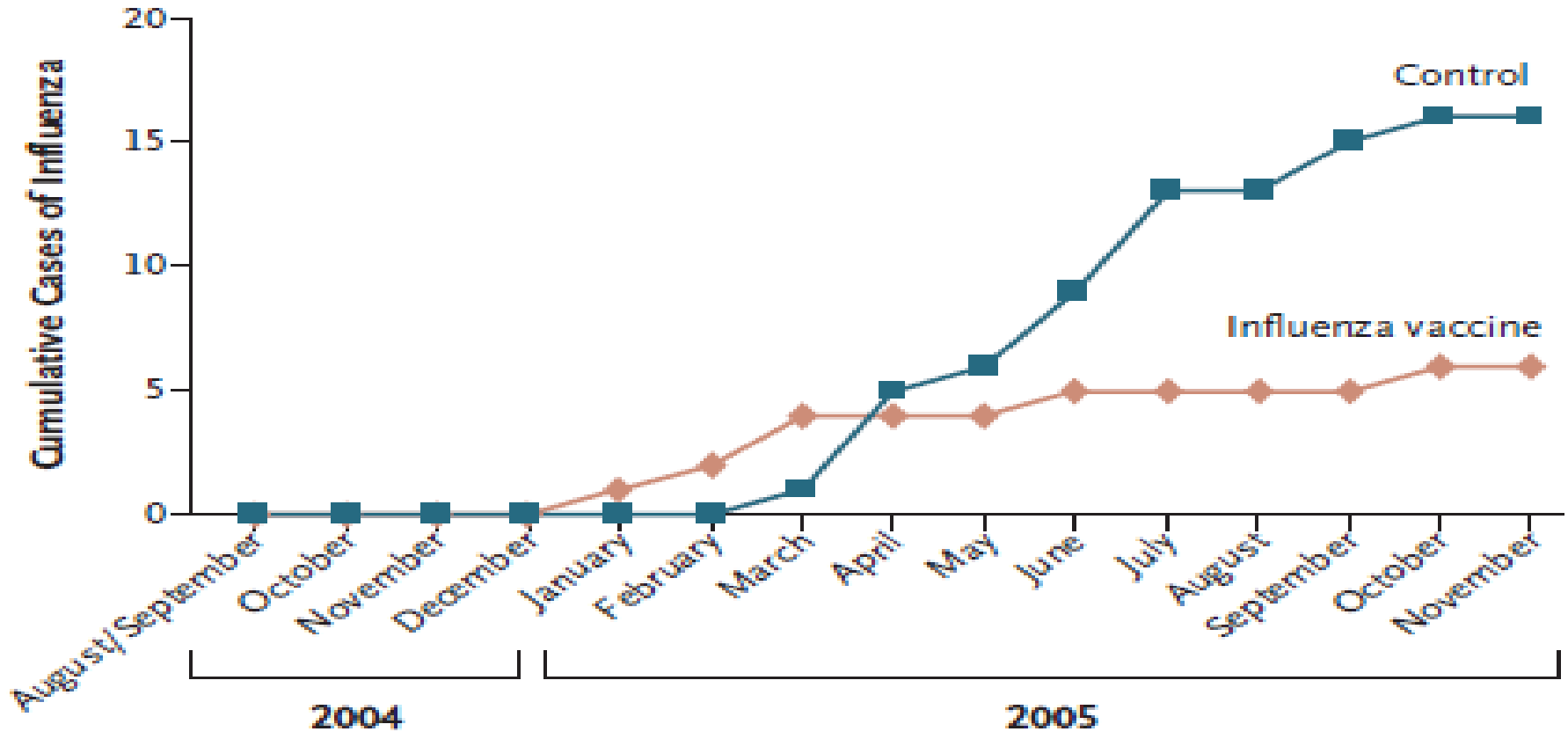


Figure 2. Cumulative Cases of Laboratory-Proven Influenza in Infants Whose Mothers Received Influenza Vaccine, as Compared with Control Subjects.

Testing for influenza antigen was performed from December 2004 to November 2005.

GEBELİKTE İNFLUENZA AŞISI

ener çağrı dinleyici

TABLE 1

Antenatal influenza immunization and infant outcomes at 0–6 months

Author	Site	Design	Vaccine	Control	Effect in infant[a]
Zaman et al, 2008[4]	Bangladesh, 2004–2005	Randomized controlled trial of vaccine	172	168	36% ILI 69% rapid test influenza illness
Benowitz et al, 2010[9]	Connecticut, 2000–2009	Case-control	91	156	91.5% DFA or PCR influenza hospitalization
Poehling et al, 2011[8]	Tennessee, Ohio, New York, 2002–2009	Case-control	151	1359	45–48% viral culture or PCR in influenza hospitalization
Eick et al, 2011[7]	Apache, Navajo, 2002-2005	Observational prospective cohort	573	587	41% serologically defined influenza episode

DFA, direct fluorescent antibody; *ILI*, influenza-like illness; *PCR*, polymerase chain reaction.

[a] Expressed as efficacy (percent reduction of infant outcome).

Steinhoff. Antenatal influenza Immunization. Am J Obstet Gynecol 2012.

GEBELİKTE İNFLUENZA AŞISI

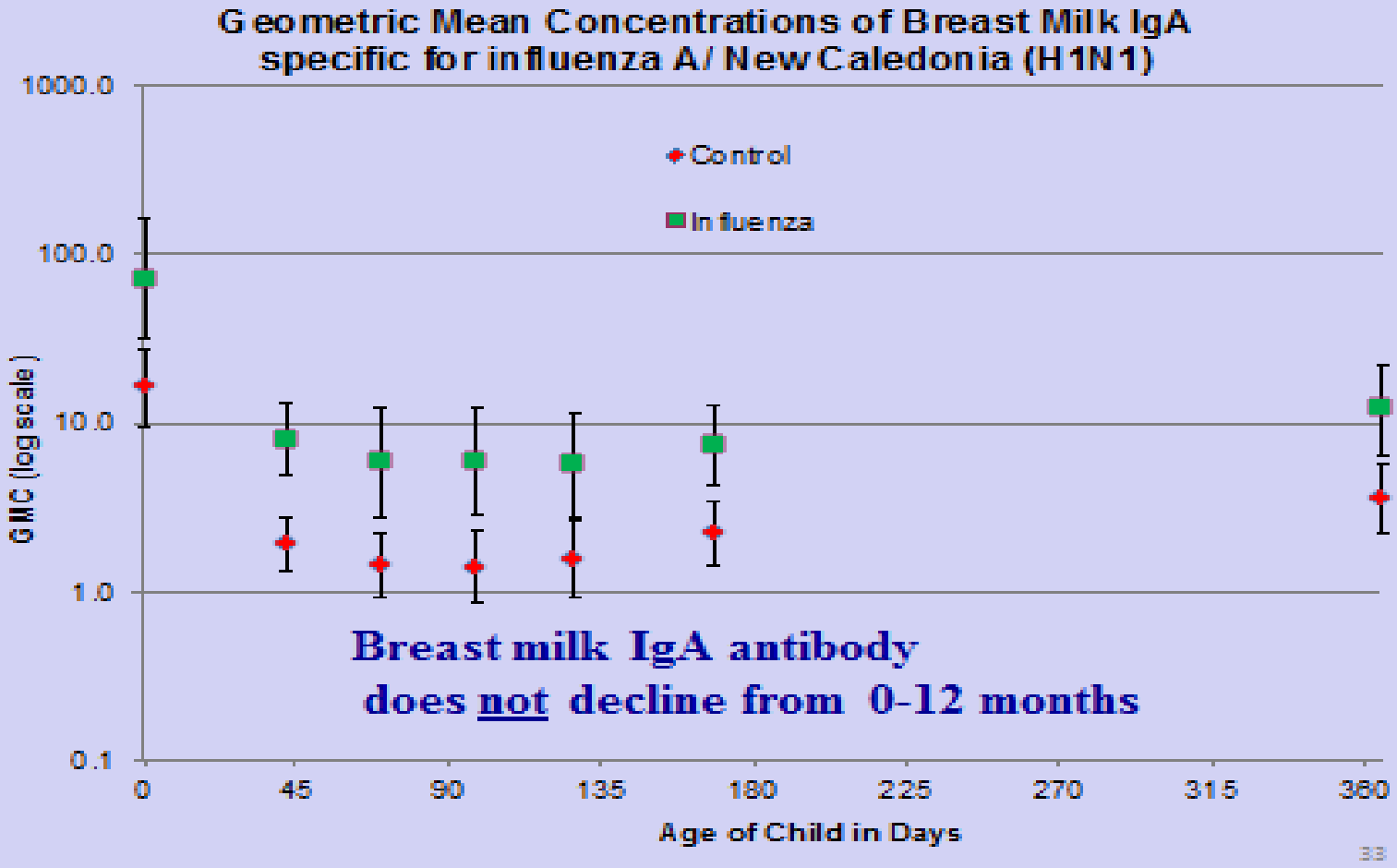
CMAJ RESEARCH

Neonatal outcomes after influenza immunization during pregnancy: a randomized controlled trial

Mark C. Steinhoff MD, Saad B. Omer PhD, Eliza Roy DCH, Shams El Arifeen DrPH, Rubhana Raqib PhD, Caitlin Dodd MS, Robert F. Breiman MD, K. Zaman PhD

- İnfluenza mevsiminde;
  - Anne ve bebeklerde ateşin eşlik ettiği solunum sistemi enfeksiyonu sıklığında belirgin azalma
  - **SGA** doğum sıklığında belirgin azalma (%25.9 vs. %44.8; $p = 0.03$).
  - **Ortalama doğum ağırlığı** aşı yapılan olgularda daha yüksek olarak saptanmış (3178 g v. 2978 g; $p = 0.02$).

GEBELİKTE İNFLUENZA AŞISI



Anne sütü IgA düzeyleri

GEBELİKTE İNFLUENZA AŞISI

G Model
JVAC 15302 1–6

ARTICLE IN PRESS

Vaccine xxx (2014) xxx–xxx

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

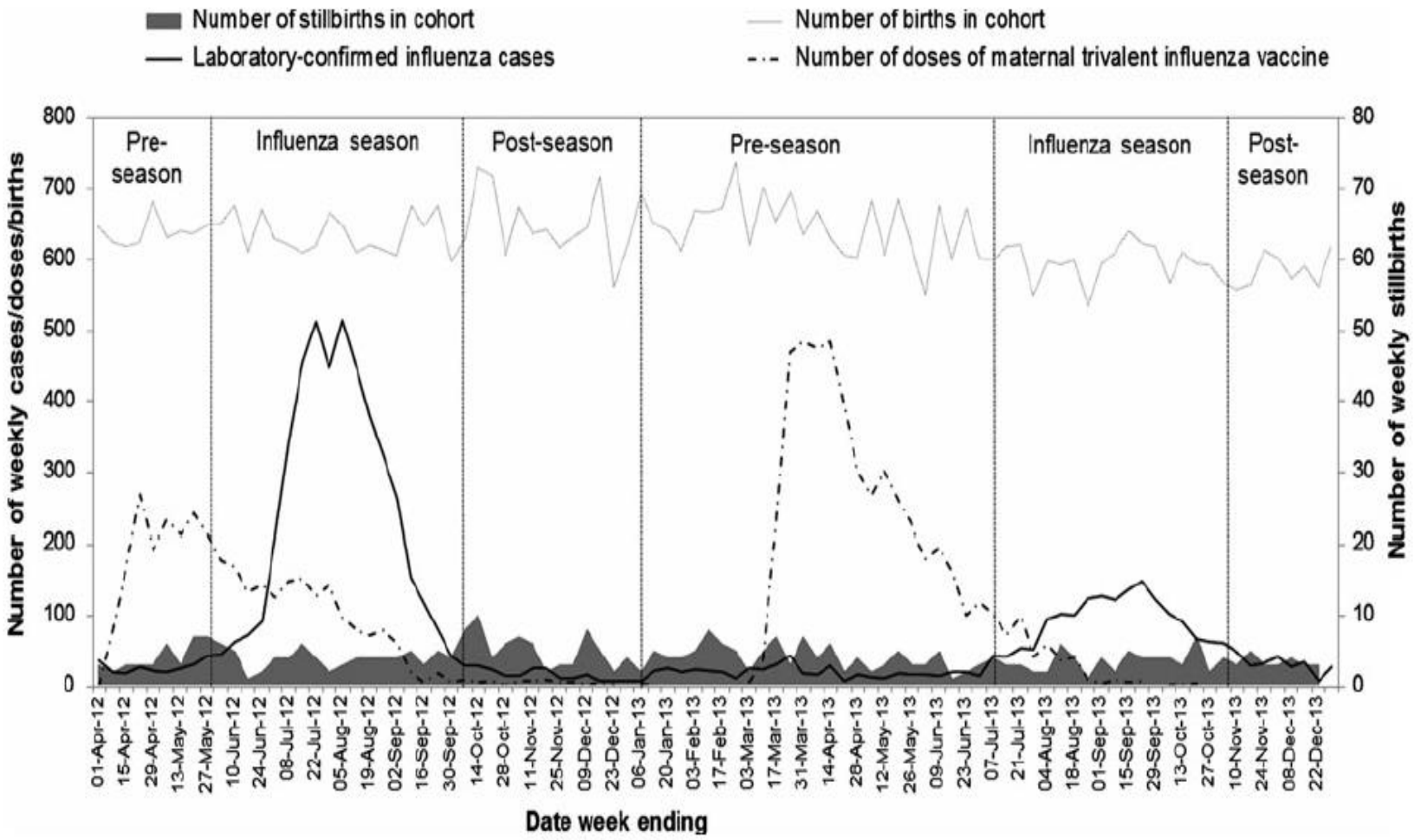
Table 3

Maternal obstetric events and influenza vaccination coverage, 2010–2011 season, Pregnancy and Influenza Project ($n = 1616$).

	Number of cases	Vaccinated cases, *n* (%)	Number of controls	Vaccinated controls, *n* (%)	*p*-value
Gestational hypertension	117	69 (59%)	1499	855 (57%)	0,68
Preeclampsia/eclampsia	96	58 (60%)	1520	866 (57%)	0,51
Gestational diabetes	192	101 (53%)	1424	823 (58%)	0,17
Chorioamnionitis	121	68 (56%)	1495	856 (57%)	0,82

[b] Division of Research, Northern California Kaiser Permanente, 2000 Broadway, Oakland, CA 94612, USA
[c] Abt Associates, 55 Wheeler Street, Cambridge, MA 02138, USA
[d] Centers for Disease Control and Prevention, 1600 Clifton Rd., Atlanta, GA 30333, USA

GEBELİKTE İNFLUENZA AŞISI



GEBELİKTE İNFLUENZA AŞISI

Vaccine 29 (2011) 7542–7550

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Vaccination during pregnancy to protect infants against influenza: Why and why not?

Geraldine Blanchard-Rohner[a,*], Claire-Anne Siegrist[a,b]

GEBELİKTE İNFLUENZA AŞISI %2-20

IQ Buds

After a successful IndieGogo campaign, NuHeara is accepting pre-orders for their innovative IQbuds. Offering advanced speech amplification and dynamic noise control, these earbud-like devices help users hear what they want to hear. Offering noise cancellation and benefits for the masses, these devices also offer advantages to those experiencing the early stages of hearing loss, without the cost or difficulties associated with prescription hearing aids.

BOĞMACA

Boğmaca olgularının yalnızca %**1-36**'sı bildirilmektedir.

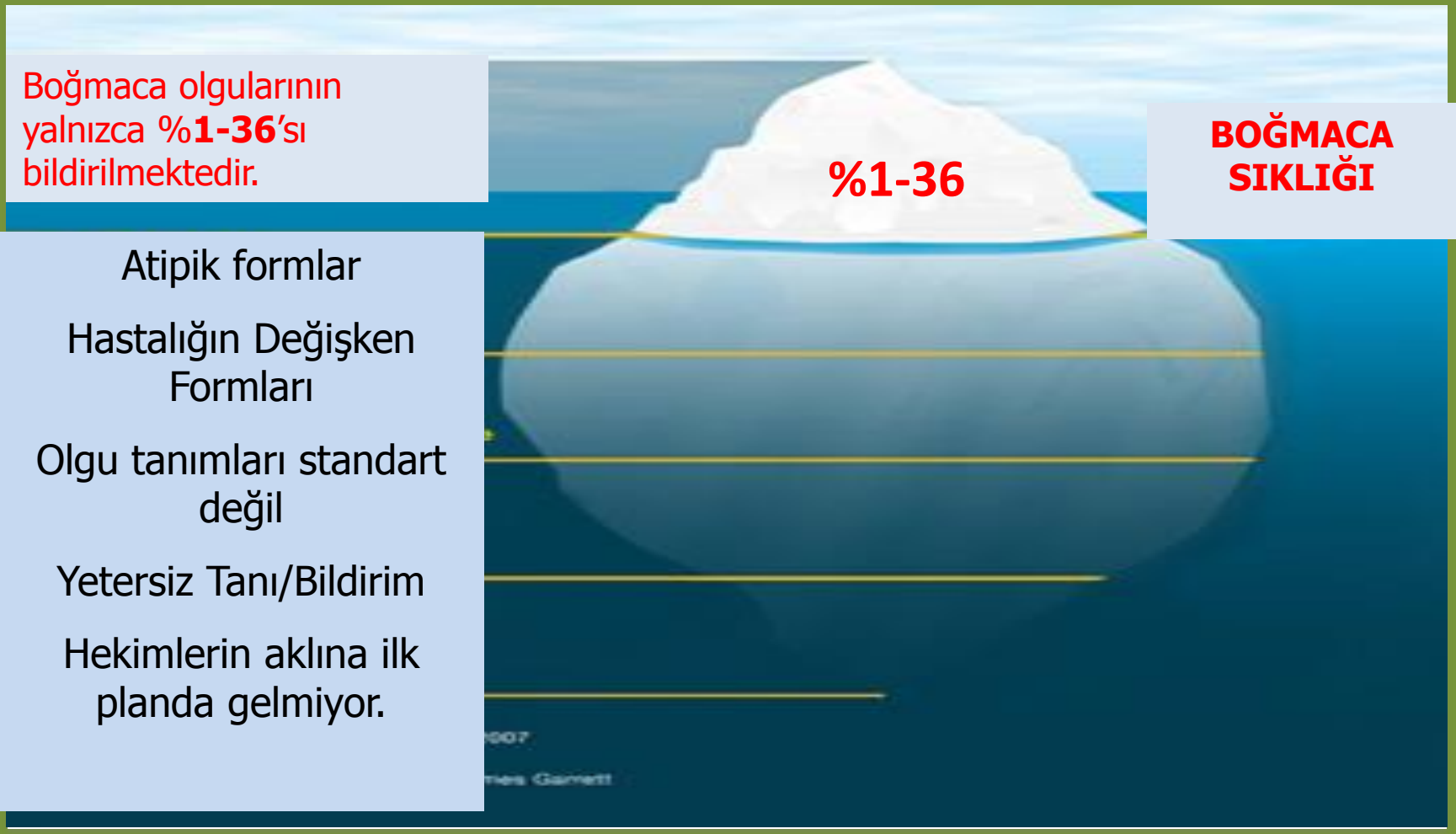
Atipik formlar

Hastalığın Değişken Formları

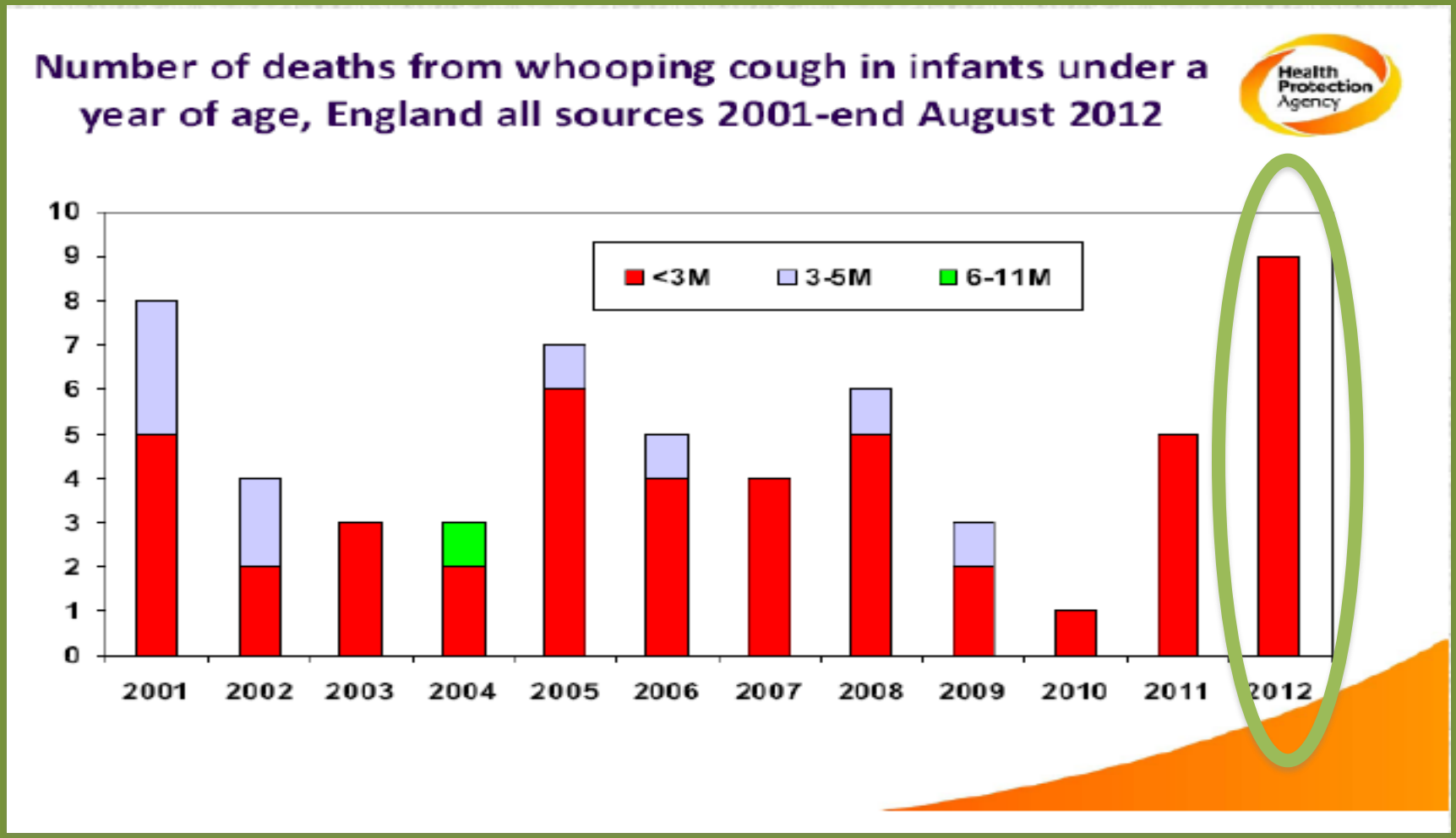
Olgu tanımları standart değil

Yetersiz Tanı/Bildirim

Hekimlerin aklına ilk planda gelmiyor.



MORTALİTE


Number of deaths from whooping cough in infants under a year of age, England all sources 2001-end August 2012
Health Protection Agency
<3M
3-5M
6-11M
10
9
8
7
6
5
4
3
2
1
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012

GEBELERDE AŞILAMA

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 60 / No. 41
October 21, 2011

— Advisory Committee on Immunization Practices (ACIP), 2011

ACIP Provisional Recommendations for Pregnant Women on Use of Tetanus Toxoid, Reduced

Maternal vaccination. ACIP recommends that women's health-care personnel implement a Tdap vaccination program for pregnant women who previously have not received Tdap. Health-care personnel should administer Tdap during pregnancy, preferably during the third or late second trimester (after 20 weeks' gestation). If not administered during pregnancy, Tdap should be administered immediately postpartum.

Cocooning. ACIP recommends that adolescents and adults (e.g., parents, siblings, grandparents, child-care providers,

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 521 • March 2012 *(Replaces No. 438, August 2009)*

Committee on Obstetric Practice

This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Update on Immunization and Pregnancy: Tetanus, Diphtheria, and Pertussis Vaccination

of pregnant women with an inactivated virus, bacterial vaccine, or toxoid, and these should be administered if indicated. The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice supports the revised recommendations on the administration of Tdap during pregnancy.

GEBELERDE AŞILAMA

ACIP provisi … toxoid
and acellula…

Date of ACIP …
Date of post…

On October … d and
acellular per… previous
Tdap history…

Updated rec…
ACIP recomm… or all
pregnant wo… ancy
irrespective…

Guidance on…
To maximize… imal
timing for Td… usly
vaccinated w… tered
immediately…

Recommendations: UK

DH Department of Health

Search

Department of Health
Public health, adult social care, and the NHS

"9 infants have died as a result of whooping cough this year and there have been 302 cases of the disease in children under 3 months old.

Home > Chief Professional Officers > Chief Medical Officer > Pregnant women to be offered…

Pregnant women to be offered whooping cough vaccination

28 September, 2012

Following a rise in the number of cases of whooping cough in young babies, the Chief Medical Officer, Professor Dame Sally Davies, has announced that pregnant women will be offered vaccinations to protect their newborn babies.

GEBELERDE AŞILAMA

Motherisk Update

Tdap vaccination during pregnancy to reduce pertussis infection in young infants

Jeremy N. Matlow MSc Anna Pupco MD Pina Bozzo Gideon Koren MD FRCPC FACMT

Abstract

Question What is the basis for the new recommendations to vaccinate pregnant women against pertussis after the first trimester?

Answer There have been outbreaks of epidemic proportions of pertussis, mostly among young infants who have not received sufficient passive immunity from their mothers. This strategy of vaccination during pregnancy aims at stopping these life-threatening epidemics.

GEBELERDE AŞILAMA

Clinical Infectious Diseases Advance Access published September 13, 2016

Effectiveness of prenatal Tdap vaccination on pertussis severity in infants

Kathleen Winter[1,2], James D. Cherry[3], Kathleen Harriman[1]

[1]California Department of Public Health, Immunization Branch, Richmond, California

[2]University of Kentucky, Department of Epidemiology, Lexington, Kentucky

[3]Geffen School of Medicine at UCLA, Los Angeles, California

GEBELERDE AŞILAMA

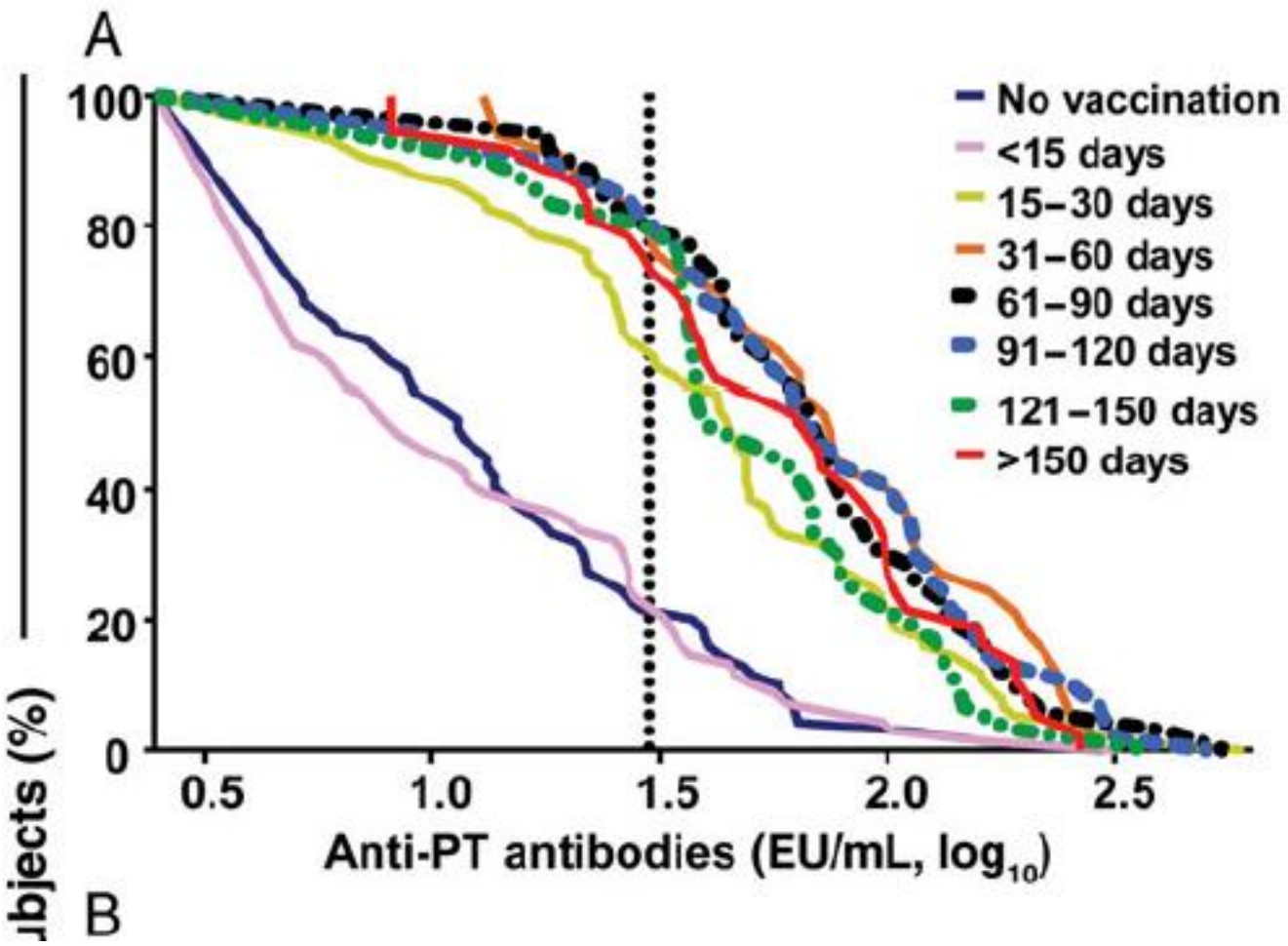
ener çağrı dinleyici

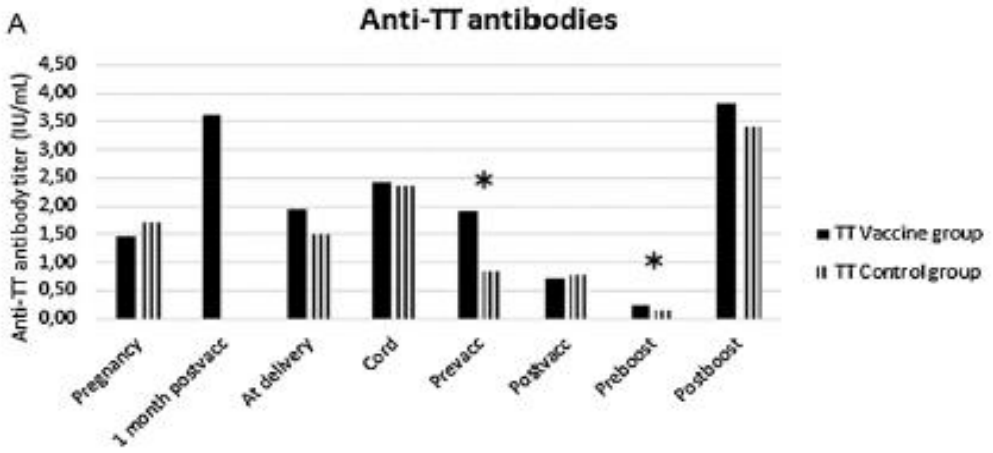
Pertussis Antibody Concentrations in Infants Born Prematurely to Mothers Vaccinated in Pregnancy

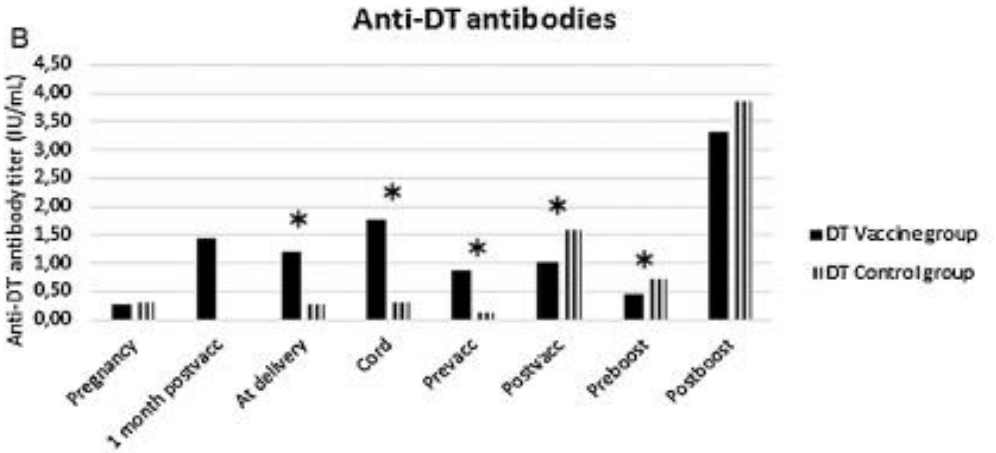
Alison Kent, MD,[a] Shamez N. Ladhani, PhD,[a,b] Nick J. Andrews, PhD,[c] Mary Matheson, PhD,[d] Anna England, PhD,[d] Elizabeth Miller, PhD,[b] Paul T. Heath, FRCPCH,[a] on behalf of the PUNS study group

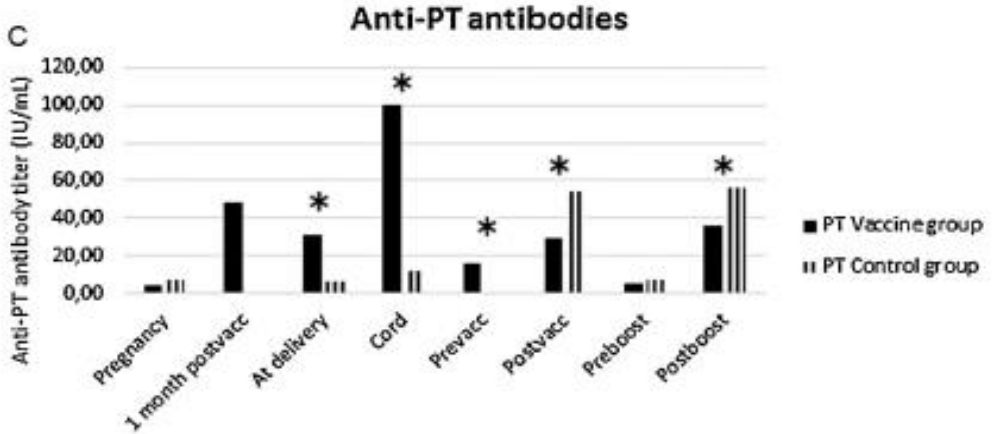
To cite: Kent A, Ladhani SN, Andrews NJ, et al. Pertussis Antibody Concentrations in Infants Born Prematurely to Mothers Vaccinated in Pregnancy. *Pediatrics*. 2016;138(1):e20153854

GEBELERDE AŞILAMA









ELSEVIER

CrossMark

Pertussis vac
infants until
15 months o

Kirsten Maerten
Niel Hens[c,d], Pie

Table 2
Reports of adverse events following Tdap vaccination during pregnancy during 2005–2010 and 2011–2015, VAERS.

	Before routine recommendation for Tdap during pregnancy	After routine recommendation for Tdap during pregnancy
Preterm birth	2 (1.5%)	11 (2.8%)
Spontaneous abortion	22 (16.7%)	4 (1.0%)
Major birth defects	1 (0.8%)	4 (1.0%)
Injection site reactions/arm pain	6 (4.5%)	47 (11.9%)
No adverse event	55 (41.7%)	182 (46.4%)

5. Conclusion

We identified no safety concerns in this comprehensive review of VAERS reports after routine Tdap vaccination was recommended in pregnant women. Findings from our review are consistent with data from other monitoring systems and epidemiological studies which have found a favorable safety profile for Tdap vaccine use during pregnancy.

ELSEVI

Enhan
and ac
Adverse

Pedro L. M
Paige Lew

ne

sMark

GEBELİKTE Tdap

ener çağrı dinleyici

ARTICLE IN PRESS

Vaccine xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Vaccine

Conclusions and Relevance: Despite an observed association between maternal Tdap vaccination and maternal chorioamnionitis, we did not find increased risk for clinically significant infant outcomes associated with maternal chorioamnionitis.

T. Craig Cheetham [d], Allison L. Naleway [e], Simon J. Hambidge [f], Grace M. Lee [g], Michael L. Jackson [h], Natalie L. McCarthy [i], Elyse O. Kharbanda [a]

[a] *HealthPartners Institute, Minneapolis, United States*
[b] *Obstetrics and Gynecology, Yale University, New Haven, United States*
[c] *Kaiser Permanente Northern California, Oakland, United States*
[d] *Kaiser Permanente Southern California, Pasadena, United States*
[e] *Center for Health Research, Kaiser Permanente Northwest, Portland, United States*
[f] *Institute for Health Research, Kaiser Permanente Colorado and Department of Ambulatory Care Services, Denver Health, Denver, United States*
[g] *Harvard Pilgrim Health Care Institute & Lee Harvard Medical School, Boston, United States*
[h] *Group Health Cooperative, Seattle, United States*
[i] *Centers for Disease Control and Prevention, Atlanta, United States*

WE KNOW TAJ MAHAL AS SYMBOL OF LOVE, BUT LESSER KNOWN FACTS ARE:

1- Mumtaz was Shahjahan's 4th wife out of his 7 wives (**great**).

2- Shahjahan killed mumtaz's husband to marry her (**excellent**).

3- Mumtaz died during her 14th delivery (**Wow**) .

4- After her death Shahjahan married Mumtaz's sister (**Amazing**).

Where the hell was love?

GEBELERDE AŞILAMA ABD

American Journal of Epidemiology

Vol. 183, No. 12
DOI: 10.1093/aje/kwv347
Advance Access publication:
May 13, 2016

Practice of Epidemiology

Cost-Effectiveness of Pertussis Vaccination During Pregnancy in the United States

Katherine E. Atkins, Meagan C. Fitzpatrick*, Alison P. Galvani, and Jeffrey P. Townsend

* Correspondence to Dr. Meagan C. Fitzpatrick, Center for Infectious Disease Modeling and Analysis, Yale School of Public Health, 135 College Street, Suite 200, New Haven, CT 06510 (e-mail: meagan.fitzpatrick@yale.edu).

Initially submitted June 5, 2015; accepted for publication December 9, 2015.

GEBELERDE AŞILAMA BREZİLYA

Vaccine 34 (2016) 1531–1539

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

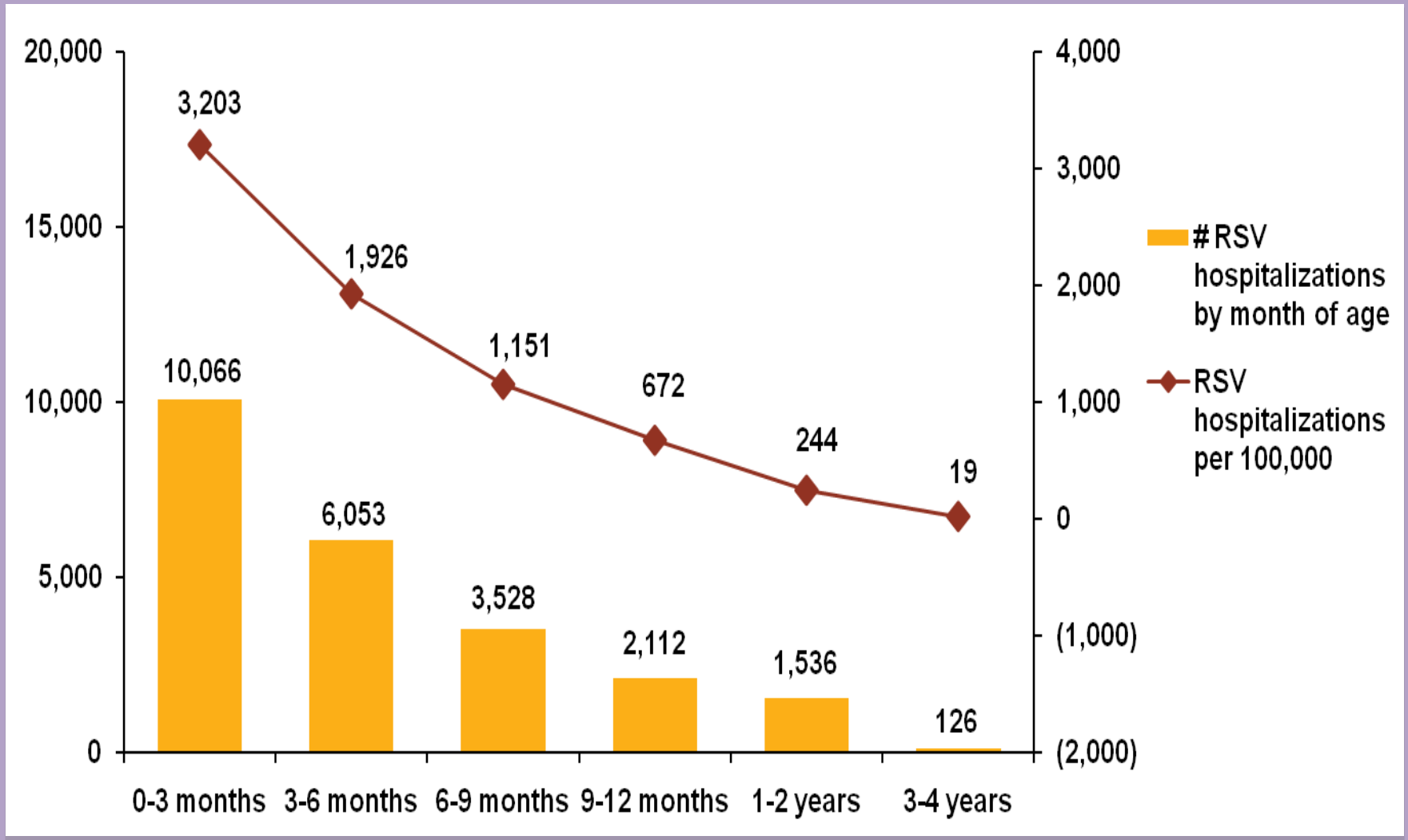
Cost-effectiveness analysis of universal maternal immunization with tetanus-diphtheria-acellular pertussis (Tdap) vaccine in Brazil

Ana Marli Christovam Sartori[a,*], Patrícia Coelho de Soárez[b,2], Eder Gatti Fernandes[b,2], Ligia Castellon Figueiredo Gryninger[a,1], Juliana Yukari Kodaira Viscondi[b,2], Hillegonda Maria Dutilh Novaes[b,2]

[a] Departamento de Moléstias Infecciosas e Parasitárias, Faculdade de Medicina da Universidade de São Paulo, Av. Dr. Enéas de Carvalho Aguiar, 255, ICHC, 4° andar, sala 4028 Cerqueira César, 05403-000 São Paulo, SP, Brazil

[b] Departamento de Medicina Preventiva, Faculdade de Medicina da Universidade de São Paulo, Av. Dr. Arnaldo, 455 2° andar, sala 2228, CEP: 01246-903, São Paulo, SP, Brazil

RSV


20,000
15,000
10,000
5,000
0
4,000
3,000
2,000
1,000
0
(1,000)
(2,000)
3,203
1,926
1,151
672
244
19
10,066
6,053
3,528
2,112
1,536
126
0-3 months
3-6 months
6-9 months
9-12 months
1-2 years
3-4 years
RSV hospitalizations by month of age
RSV hospitalizations per 100,000

GEBELİKTE RSV AŞILAMASI

PLOS ONE

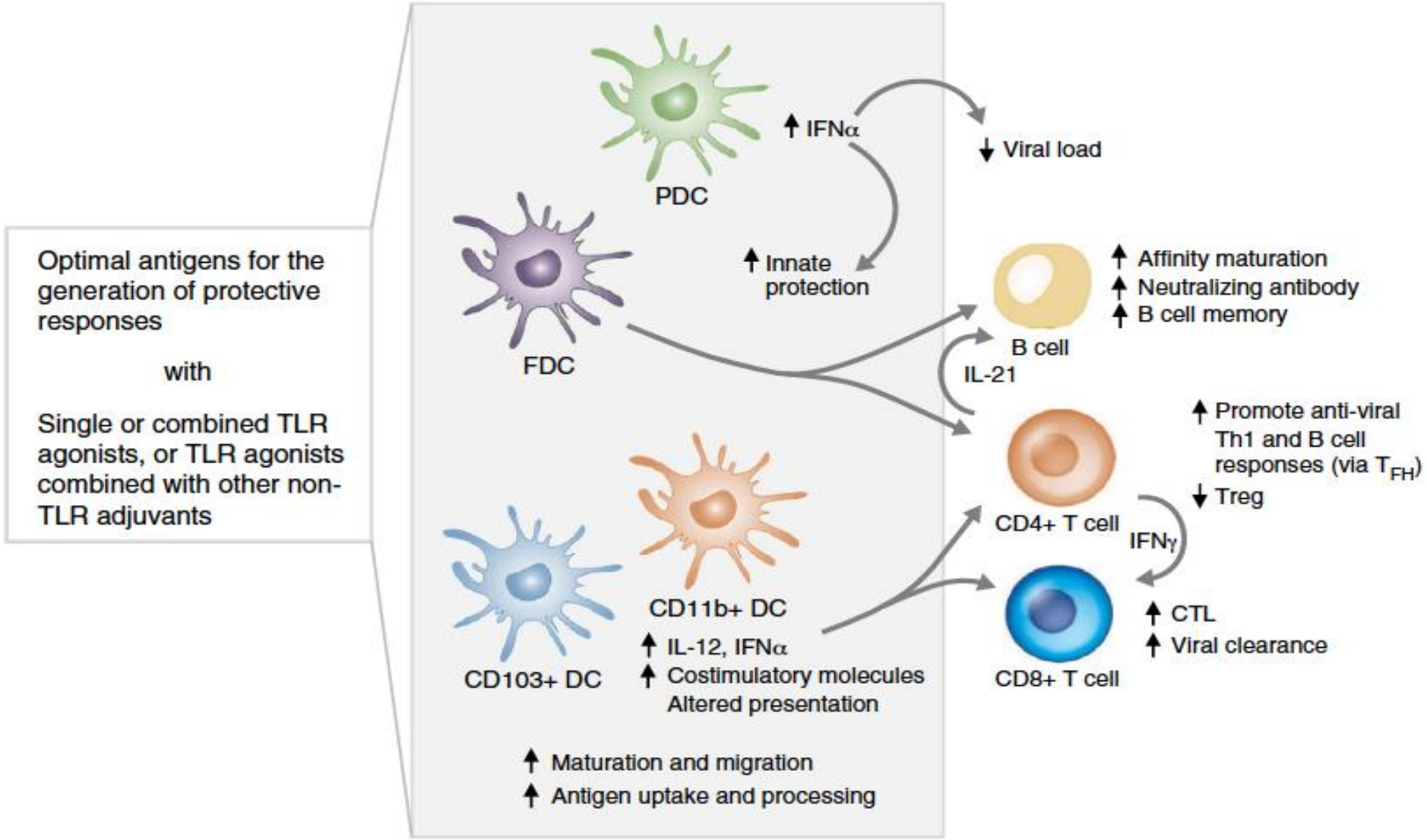
RESEARCH ARTICLE

Clinical Presentation and Birth Outcomes Associated with Respiratory Syncytial Virus Infection in Pregnancy

Helen Y. Chu[1]*, Joanne Katz[2], James Tielsch[3], Subarna K. Khatry[4], Laxman Shrestha[5], Steven C. LeClerq[4], Amalia Magaret[6,7], Jane Kuypers[6], Mark C. Steinhoff[8], Janet A. Englund[9]

PLOS ONE | DOI:10.1371/journal.pone.0152015 March 31, 2016

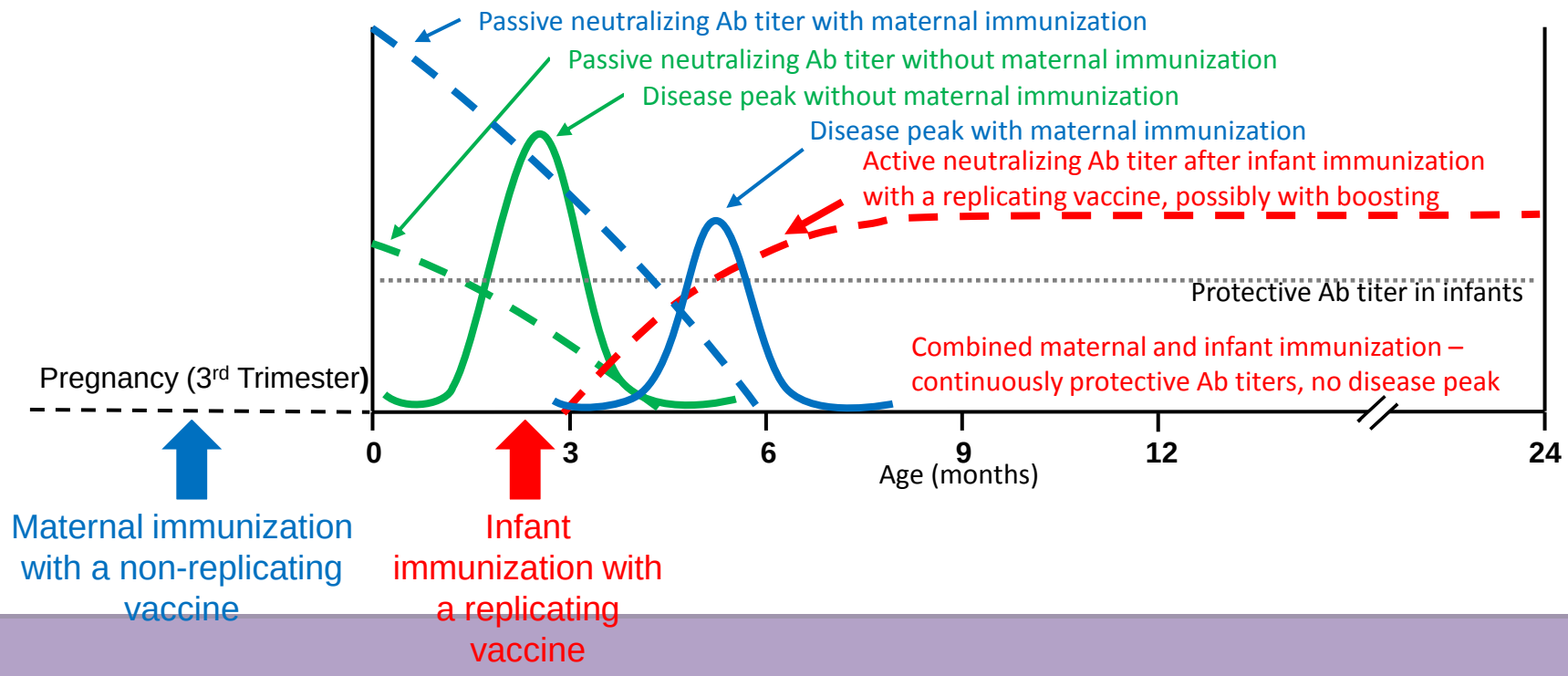
GEBELİKTE RSV AŞILAMASI



Current Opinion in Virology

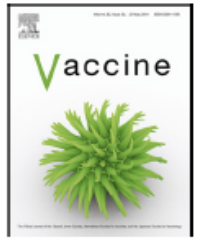
RSV AŞILAMASI

- 2 AŞI ADAYI
  - RSV F subunit vaccine (GEBELER İÇİN)
  - RSV SAM® AŞISI (BEBEKLERDE UYGULAMA)
  - Bu 2 aşının birlikte uygulama stratejesi



RSV AŞILAMASI

Vaccine 34 (2016) 261–269



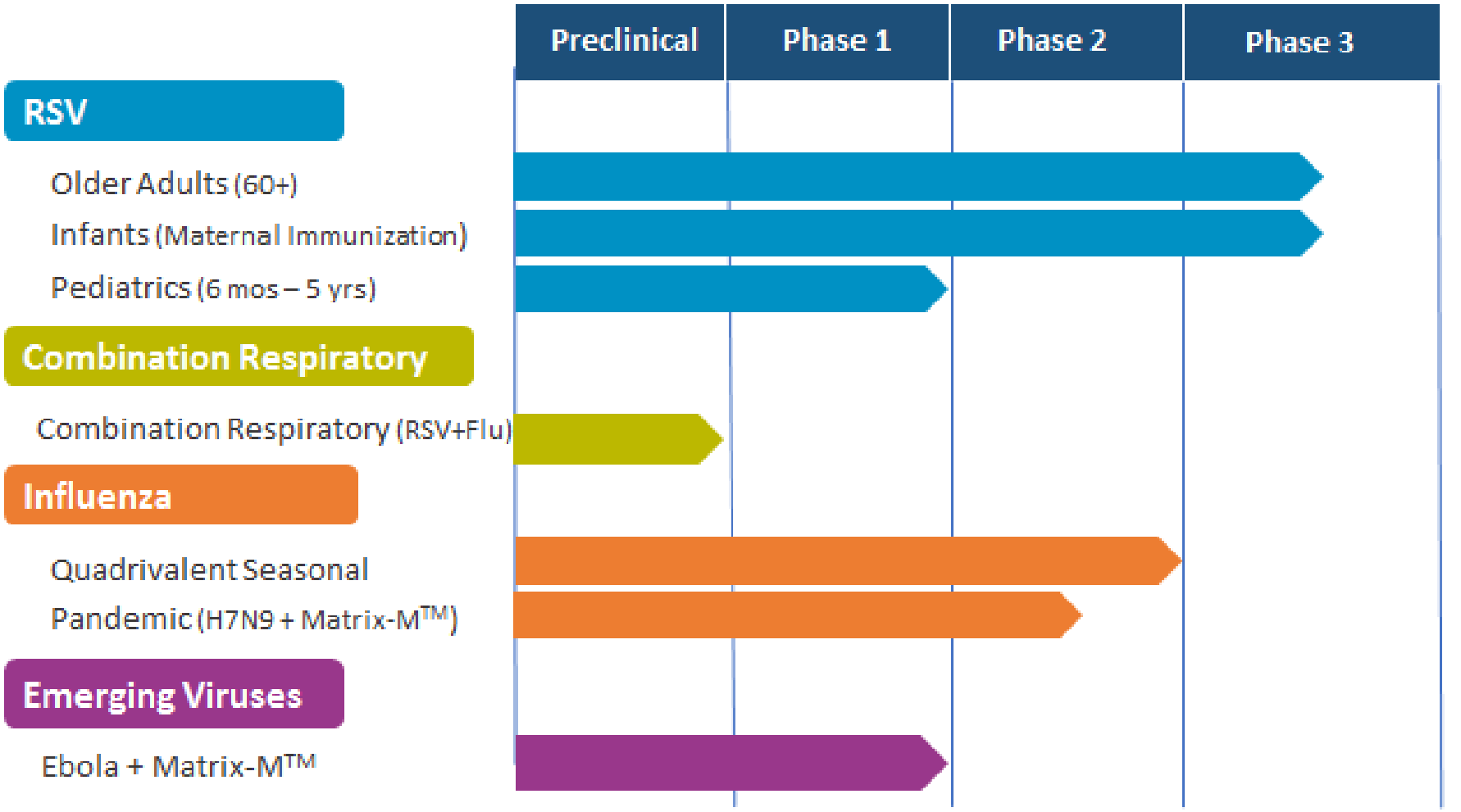
CrossMark

Lambs have been used as a model to study RSV pathogenesis, immune responses, vaccination and therapeutic strategies as they have similar lung development and mucosal immune responses as human infants [6]. This model also provides a unique opportunity to determine if maternal vaccination confers protection to very young infants. Recently, we developed a RSV subunit vaccine candidate consisting of a truncated version of the fusion protein formulated with a novel adjuvant (ΔF/TriAdj). This vaccine induced

S. van Drunen Littel-van den Hurk[a,b,*]

[a] VIDO-InterVac, University of Saskatchewan, Saskatoon, SK S7N 5E3, Canada
[b] Microbiology & Immunology, University of Saskatchewan, Saskatoon, SK S7N 5E3, Canada
[c] Veterinary Pathology, University of Saskatchewan, Saskatoon, SK S7N 5E3, Canada
[d] Veterinary Microbiology, University of Saskatchewan, Saskatoon, SK S7N 5E3, Canada
[e] Guangdong South China United Vaccine Institute, Guangdong, Guangzhou, China

RSV AŞILAMASI



GRUP B STREPTOKOK (GBS)

- Streptococcus agalactiae (Grup B)
- Kapsül polisakaritine göre 9 serogrup
- İngilterede ilk 48 saat yenidoğanlarda en sık bakteriyemi nedeni
  - %90 GBS olgusu ilk 24 saatte görülmektedir.
  - Erken başlangıçlı olgularda sepsis, geç başlangıçlı olgularda menenjit şeklinde
  - GBS menenjitinde 5 yıllık takipte %50 nörolojik sekel
- 2-28 gün yenidoğanlarda 5.sırada (en sık KNS)
- 3 aydan küçük bebeklerde en sık menenjit etkeni
  - Ülkemizde ve bazı ülkelerde nadir??

GBS

Erken sepsis olgularının %90'ı ilk gün, %98 olguda bulgu ilk 12 saatte

SON YILLARDA

- Düşük doğum ağırlığı olan bebek sayısında artma
- IVF sayısında artışa bağlı çoğul gebeliklerde artma
- Düşük doğum ağırlıklı bebeklerin yaşama şansında artma
- Yenidoğan servislerinde kalış süresinde uzama
- Geniş spektrumlu antibiyotik kullanımında artma
- Enfeksiyon sıklığında ve çeşitliliğinde değişme
- Antibiyotik direncinde artma

GBS KORUNMA STRATEJİLERİ

- GBS aşıları
  - Kapsül polisakaritinden elde edilecek aşılar?
  - Kapsül PS'ne yönelik antikor titreleri düşük olanlarda enfeksiyon saptanması aşı ile korunma konusunda fikir vermiştir.
    - 1978: İlk GBS III PS aşı (erişkin)
    - 1988: İlk GBS III PS aşı (gebelerde %60 yanıt)
    - 1996: Tetanoz konjuge aşı (erişkinlerde)
    - 2001: Tetanoz konjuge aşı (gebelerde)
    - 1998'den beri farklı konjuge aşılar ile 1000'den fazla kişide çalışmalar devam etmektedir.

GBS KORUNMA STRATEJİLERİ

- GBS protein aşıları
  - Serogrup bağımsız korunma
  - Daha ucuz
  - Daha önceki enfeksiyondan etkilenmiyor
  - Tek başına protein aşılar ya da kapsül PS ile konjuge aşı çalışmaları devam ediyor.
  - Reverse vaccinology (Meningokok B aşısına benzer şekilde) ile elde edilen proteinler üzerinden aşı çalışmaları devam ediyor.
    - Tüm dünyada kullanılabilecek bir aşı

GBS KORUNMA STRATEJİLERİ

- GBS protein aşıları
  - Erken neonatal sepsis olgularından sorumlu olması ve genelde ilk 24 saatte enfeksiyon olması nedeni ile GEBELERDE AŞILAMA
  - 28-32. haftada aşılama
  - En az 40.000 gebenin olduğu bir Faz 3 çalışmaya ihtiyaç var !!
  - Aşı etkililiği göstergeleri?

GBS AŞILARI

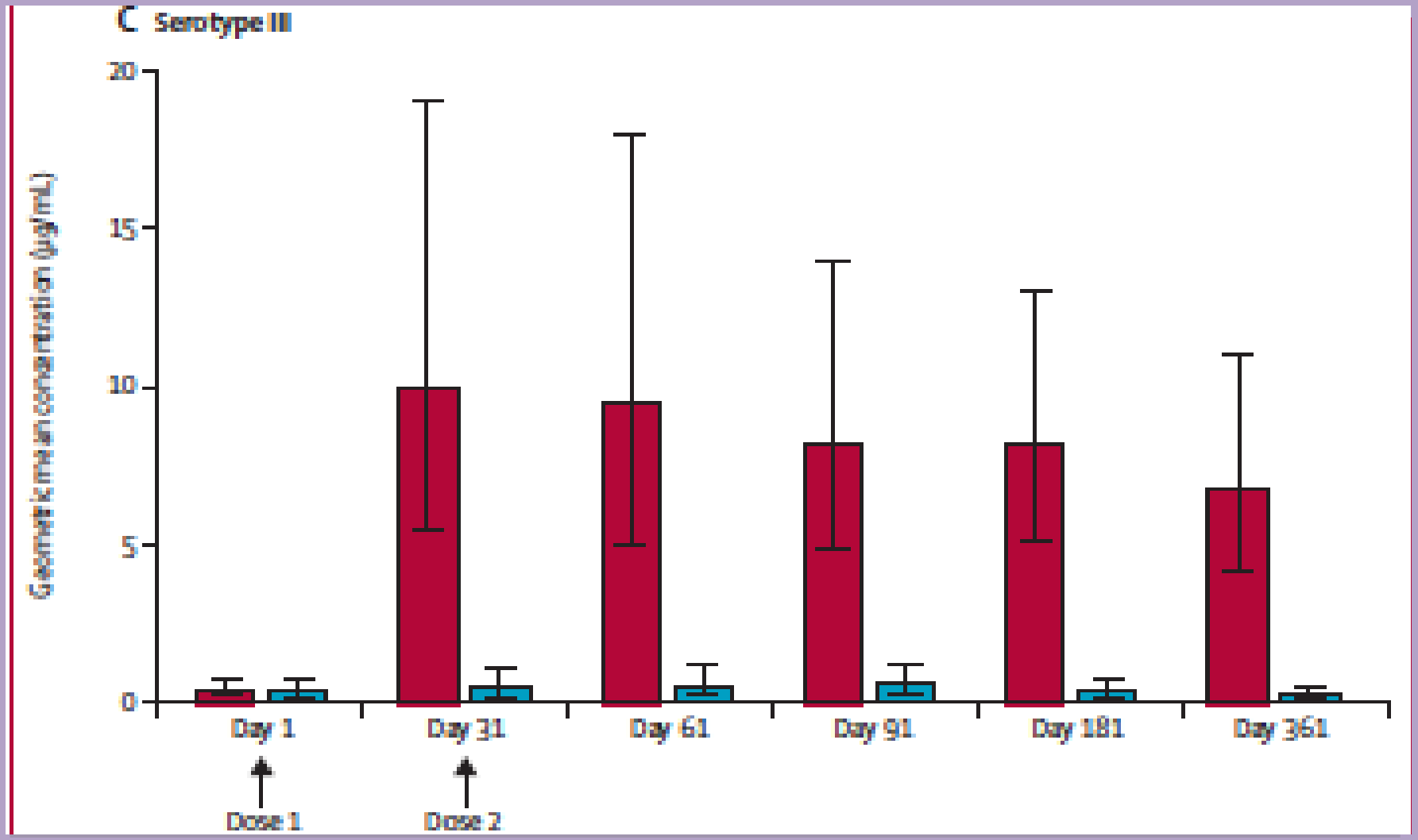
Articles

Safety and immunogenicity of an investigational maternal trivalent group B streptococcus vaccine in healthy women and their infants: a randomised phase 1b/2 trial

Shabir A Madhi, Clare L Cutland, Lisa Jose, Anthonet Koen, Niresha Govender, Frederick Wittke, Morounfolu Olugbosi, Ajoke Sobanjo-ter Meulen*, Sherryl Baker, Peter M Dull*, Vas Narasimhan*, Karen Slobod**

Summary:

GBS AŞILARI


C Serotype III
Geometric mean concentration (µg/mL)
20
15
10
5
0
Day 1
Day 31
Day 61
Day 91
Day 181
Day 361
Dose 1
Dose 2

GBS

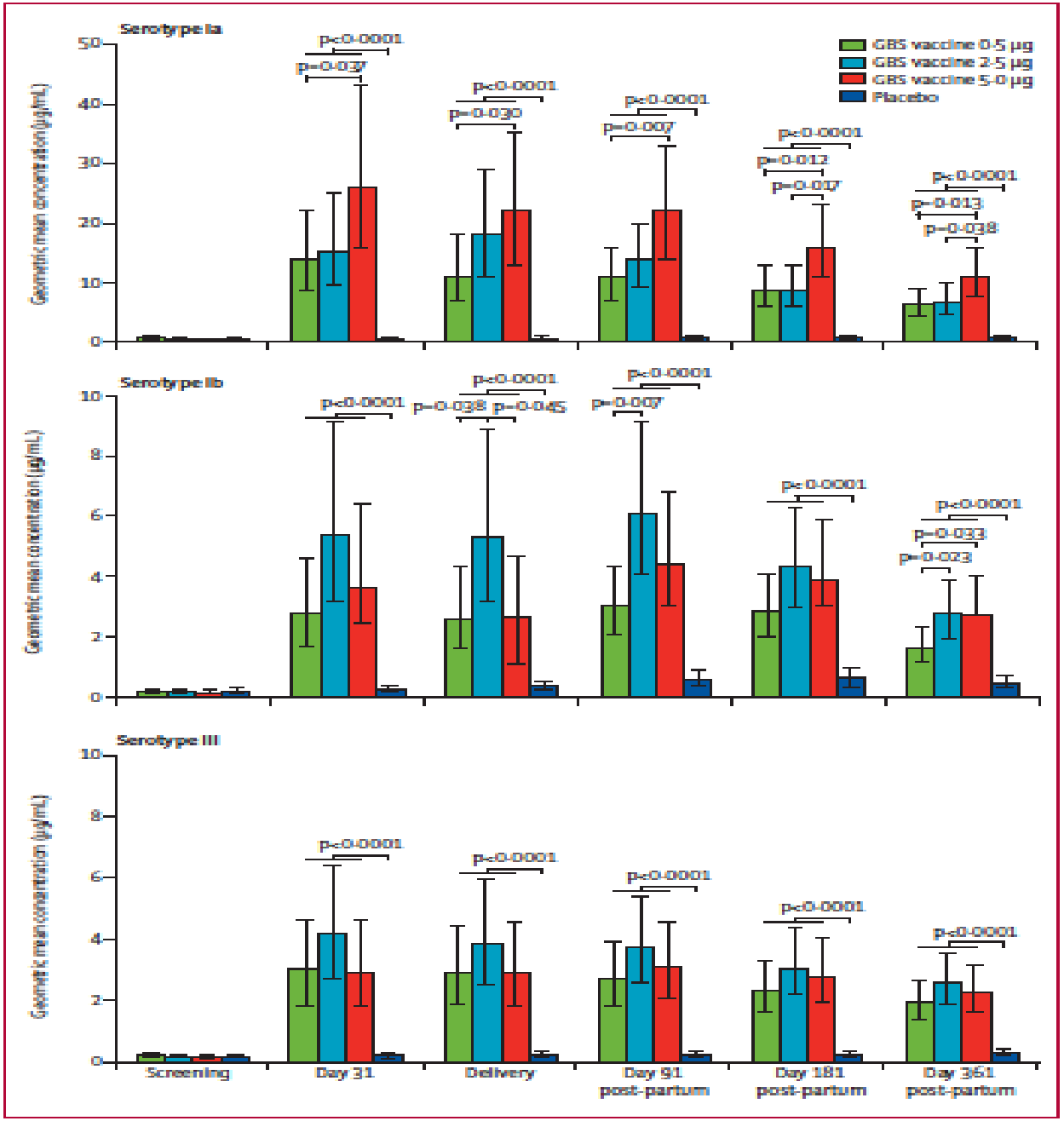


Figure 4: Geometric mean GBS-specific antibody concentrations (GMC) for the three vaccine dose groups and placebo group, against each of the three vaccine serotypes in pregnant women
Note difference in y-axis scale for the three serotypes.

GBS AŞILARI

ener çağrı dinleyici

Group B streptococcal maternal vaccination, the goal is near

Infections are the foremost cause of neonatal mortality worldwide, and group B streptococcus (GBS) remains a leading cause of neonatal sepsis and meningitis.[1,2] In *The Lancet Infectious Diseases*, Shabir Madhi and colleagues[3] report the first phase 1b/2 randomised trial on a trivalent GBS vaccine in 60 non-pregnant and 320 pregnant (in the third trimester) healthy black-African women.[3]

In many high-income countries, prevention guidelines based on universal GBS culture screening in late pregnancy and intrapartum administration of antibiotics have led to a striking decline in early-onset disease (ie, the disease presenting at 0–6 days of life)—eg, from 1·8 cases per 1000 livebirths in 1990 to 0·25 in 2013 in the USA.[4] However, the widespread use of intrapartum antibiotics could lead to increasing pathogen resistance. Furthermore, residual cases of early-onset disease continue to occur, because of the failure to screen all women who deliver at term, or the failure to provide antibiotics to all women with GBS colonisation, and the false negative results of prenatal screening currently account for about 60% of cases of early-onset disease in the USA.[2] A strategy based on screening and intrapartum antibiotics administration might be unfeasible in resource-poor countries, where 75% of infection-related deaths occur.[5] Finally, intrapartum antibiotics have had no apparent effect on late-onset disease (ie, the disease presenting at age 7–89 days),[2] which might be complicated by meningitis in over half of cases.[6] In some countries, GBS has become a leading cause of meningitis in childhood.[7]

A vaccine could overcome many of the outstanding issues related to intrapartum antibiotic prophylaxis and could be an effective strategy for resource-poor countries. The low immunogenicity of unmodified type-specific polysaccharides used in early unconjugated vaccines has been enhanced by conjugation of polysaccharides to highly immunogenic carrier proteins, such as tetanus toxoid, and more recently CRM_{197}. The proven safety of Tdap vaccine (against tetanus, diphtheria, and pertussis)

John Robinson/AP/Press Association Images

Published Online
April 29, 2016
http://dx.doi.org/10.1016/S1473-3099(16)30048-2

See Articles page 923

GEBELİKTE MENİNGOKOK AŞILAMASI

RESEARCH www.AJOG.org

OBSTETRICS

Safety of meningococcal polysaccharide-protein conjugate vaccine in pregnancy: a review of the Vaccine Adverse Event Reporting System

Yenlik Zheteyeva, MD; Pedro L. Moro, MD; Xin Yue, MS; Karen Broder, MD

OBJECTIVE: We characterized reports to the Vaccine Adverse Event (AE) Reporting System (VAERS) of pregnant women who received meningococcal polysaccharide-protein conjugate vaccine Menactra (MenACWY-D; Sanofi Pasteur Inc., Swiftwater, PA).

STUDY DESIGN: We searched VAERS for reports of pregnant women who received MenACWY-D from Jan. 1, 2005 through Dec. 31, 2011. We conducted clinical review of reports and available medical records.

RESULTS: Of 103 identified reports, 38 (36.7%) did not describe any AE. No maternal or infant deaths were reported. The most frequent pregnancy-specific AE was spontaneous abortion in 17 (16.5%) reports. Urinary tract infections and fever with vomiting were the most frequent nonpregnancy-specific AEs found in 4 (3.9%) and 3 (2.9%) reports, respectively. We identified 1 report with a major congenital anomaly (aqueductal stenosis and severe ventriculomegaly).

CONCLUSION: Our comprehensive review of reports to VAERS in pregnant women after MenACWY-D did not identify any concerning patterns in maternal, infant, or fetal outcomes.

Key words: adverse events, epidemiology, meningococcal polysaccharide-protein conjugate vaccine, pregnancy, surveillance, vaccine safety

Cite this article as: Zheteyeva Y, Moro PL, Yue X, et al. Safety of meningococcal polysaccharide-protein conjugate vaccine in pregnancy: a review of the Vaccine Adverse Event Reporting System. Am J Obstet Gynecol 2013;208:478.e1-6.

GEBELİKTE HEPATİT A/B AŞILAMASI

OBSTETRICS

Reports to the Vaccine Adverse Event Reporting System after hepatitis A and hepatitis AB vaccines in pregnant women

Pedro L. Moro, MD; Oidda I. Museru, RN; Manette Niu, MD; Paige Lewis, MSPH; Karen Broder, MD

OBJECTIVE: To characterize adverse events (AEs) after hepatitis A vaccines (Hep A) and hepatitis A and hepatitis B combination vaccine (Hep AB) in pregnant women reported to the Vaccine Adverse Event Reporting System (VAERS), a spontaneous reporting surveillance system.

STUDY DESIGN: We searched VAERS for AEs reports in pregnant women who received Hep A or Hep AB from Jan. 1, 1996-April 5, 2013. Clinicians reviewed all reports and available medical records.

RESULTS: VAERS received 139 reports of AEs in pregnant women; 7 (5.0%) were serious; no maternal or infant deaths were identified. Sixty-five (46.8%) did not describe any AEs. For those women whose gestational age was available, most were vaccinated during the first trimester, 50/60 (83.3%) for Hep A and 18/21 (85.7%) for Hep AB. The most common pregnancy-specific outcomes following Hep A or Hep AB vaccinations were spontaneous abortion in 15 (10.8%) reports, elective termination in 10 (7.2%), and preterm delivery in 7 (5.0%) reports. The most common nonpregnancy specific outcome was urinary tract infection and nausea/vomiting with 3 (2.2%) reports each. One case of amelia of the lower extremities was reported in an infant following maternal Hep A immunization.

CONCLUSION: This review of VAERS reports did not identify any concerning pattern of AEs in pregnant women or their infants following maternal Hep A or Hep AB immunizations during pregnancy.

Key words: hepatitis A hepatitis B combined vaccine, hepatitis A vaccine, pregnancy, surveillance, vaccine safety

Cite this article as: Moro PL, Museru OI, Niu M, et al. Reports to the Vaccine Adverse Event Reporting System after hepatitis A and hepatitis AB vaccines in pregnant women. Am J Obstet Gynecol 2014;210:x-ex-x-ex.

CMV (SİTOMEGALOVİRÜS)

Vaccine 32 (2014) 4–10

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Review

Priorities for CMV vaccine development☆

Philip R. Krause[a,*], Stephanie R. Bialek[b], Suresh B. Boppana[c], Paul D. Griffiths[d], Catherine A. Laughlin[e], Per Ljungman[f], Edward S. Mocarski[g], Robert F. Pass[c], Jennifer S. Read[h], Mark R. Schleiss[i], Stanley A. Plotkin[j]

[a] Office of Vaccines Research and Review, Center for Biologics Evaluation and Research, Food and Drug Administration, Bethesda, MD, United States
[b] Centers for Disease Control and Prevention, Atlanta, GA, United States
[c] University of Alabama, Birmingham, AL, United States
[d] University College London, UK
[e] National Institute of Allergy and Infectious Diseases, National Institutes of Health, United States
[f] Karolinska Institutet, Stockholm, Sweden
[g] Emory University, Atlanta, GA, United States
[h] National Vaccine Program Office, Washington, DC, United States
[i] University of Minnesota, Minneapolis, MN, United States
[j] University of Pennsylvania, Philadelphia, PA, United States

CMV (SİTOMEGALOVİRÜS)

- Çocu… feksiyonları arasır…
- Ment… ral palsi
- Sens…
- Geliş… siyon
- Gebe…

Journal of Internal Medicine 2006; 259: 219–246 doi:10.1111/j.1365-2796.2006.01618.x

REVIEW

Does cytomegalovirus play a causative role in the development of various inflammatory diseases and cancer?

C. SÖDERBERG-NAUCLÉR
From the Department of Medicine, Center for Molecular Medicine, L8:03, Karolinska Institute, Karolinska University Hospital, Stockholm, Sweden

- GEBELIKTE CMV AŞILAMASI
- Aşı aynı zamanda immün sistemi baskılanmış transplantasyon ve onkoloji hastalarında??
- Aşı ile malignite, otoimmün hastalıklar, aterosklerozdan korunma???

INMIS

4th INTERNATIONNAL NEONATAL & MATERNAL IMMUNIZATION SYMPOSIUM (INMIS-2017)

Global Strategies for Global Impact

2017 - Brussels

More information soon.

- Paul Heath (UK)
- Flor Munos Rivas (US)

- BRÜKSEL
  - 10-12 EYLÜL 2017....




GEBELİKTE AŞILAMA-2027

EMEKLİ Prof. Dr. Ener Çağrı DİNLEYİCİ

2 Haziran 2027
İSTANBUL

Excellence is a road, not a destination

Cont'd, 2017, Ener Cagri Dinleyici