The Conquest of Hib

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**Haemophilus influenzae**

Haemophilus = ‘blood’- loving

influenzae = fr. latin: influentia: epidemic disease – evil influence
White Mountain Apache Tribe
Oct – Dec 81
5 Cases of Invasive Hib Disease
Annual Incidence of Hib Meningitis in Children Under 5 Years in Non-industrialized Countries

Cases per 100,000 Children < 5 Years

- Alaska Eskimos
- Apache
- Navajo
- Aboriginals
- Gambia
- Niger
- Senegal
- S. Africa (Black)
- Chile
- Brazil
- Argentina
- Israel
- Kuwait
- Qatar
- Hefel, China
- Vietnamese
- Malaysia
- Fiji

Modified from Bjalmer, J Infect Dis, 1992; 165(1):S29-32
Cumulative Proportion of *H. influenzae* Meningitis Cases, by Age, from The Gambia, United States, and Finland
H. *Influenzae* type b (Hib)
Hyperimmune Globulin

Hib Conjugate Vaccines Chemical structure

**Act-HIB™**  
(Aventis Pasteur)

**HIBERIX™**  
(SB)

**HbOC**  
(PEDVAX HIB™  
(MSD))

**PRP-D**  
ProHIBIT™  
no longer marketed

**PRP-OMP**  
Bigeneric

**Polysaccharide**  
Oligosaccharide

**PEDVAX HIB™**  
(MSD)

**HIB TITER™**  
(Wyeth Lederle)

**KEY**

- Bigeneric
- Polysaccharide
- Oligosaccharide

**spacer**
Comparative Immunogenicity of Hib Conjugate Vaccines in Alaska Native Infants

Vaccines administered at 2, 4, and 6 months, except PRP-OMP at 2 and 4

Hib-OMPC Vaccine Efficacy Trial
Navajo Indian Reservation

<table>
<thead>
<tr>
<th></th>
<th># Received</th>
<th># of Hib Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 dose</td>
<td></td>
</tr>
<tr>
<td><strong>Vaccine</strong></td>
<td>2588</td>
<td>0</td>
</tr>
<tr>
<td><strong>Placebo</strong></td>
<td>2602</td>
<td>21</td>
</tr>
</tbody>
</table>

P<0.001; Vaccine Efficacy 100% (CI 81-100)

### Hib-OMPC Vaccine Efficacy Trial
Navajo Indian Reservation

<table>
<thead>
<tr>
<th></th>
<th>No. received</th>
<th>Cases of Hib</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine</td>
<td>2,588</td>
<td>0</td>
</tr>
<tr>
<td>Placebo</td>
<td>2,602</td>
<td>8</td>
</tr>
</tbody>
</table>

*p < 0.005; Vaccine Efficacy 100% (95% CI 41-100)

In the early hours of August 2, 1990, more than 100,000 Iraqi troops moved tanks, helicopters and trucks across the border into Kuwait. Iraq maintained the world’s fourth-largest military and had mobilized an overwhelming invading force. Within an hour, they reached Kuwait City, and by daybreak, Iraqi tanks were attacking Darsman Palace, the royal residence.

It was Saddam’s idea alone to invade Kuwait. He had gambled that he could get away with seizing the tiny oil-rich nation to help pay off debts. But his gamble did not pay off — he had misread the interests of the international community and the United States in a stable Middle East. After the invasion, Saddam defied orders to retreat and the U.N. imposed sanctions. After months of deliberations and with U.N. support, the United States and international Coalition forces launched a full-scale air and missile attack on Iraq on January 16, 1991. A ground assault followed a month later, and Saddam’s troops were quickly forced out of Kuwait. The United Nations declared an end to the war on April 11, 1991.

(Source: BBC Frontline World)
Invasive *Haemophilus influenzae* type a and type b disease among Navajo and White Mountain Apache children aged <5 years, 1988-2003 (Millar et al. 2005)

Wenger, Pediatr Infect Dis J, 1998;17(9):S132-6
Percentage decline in incidence Hib following vaccine introduction
Countries Using Hib Vaccine in their National Immunization Program (2000)

Routine Hib Implementation Status, 2000

- Yes
- No

Potential for introducing Hib vaccine in India - 2000

Birth cohort: 27 million per year

“An Impossible Dream”
World Map Redrawn Based on Child Deaths

http://www.viewoftheworld.net/wp-content/uploads/2012/05/StC_MortalityUnderAge5Map.jpg
GAVI Hib Initiative
A Global Partnership

Meningitis and Pneumonia Prevention
Countries Using Hib Vaccine in their National Immunization Program (2005)

At the start of Hib Initiative

Importance of “face to face” communication
Hib Initiative: Regional Forums

Europe & Eurasia
- 15 countries

Eastern Mediterranean
- 10 countries

Asia and South-East Asia
- 13 countries

West & Central Africa
- 20 countries

East & Southern Africa
- 15 countries

73 GAVI and non-GAVI countries participated in regional forums

GAVI countries
Where am I?
You must be a researcher
Because what you told me is absolutely correct but completely useless
Yes, how did you know?

You’re 30 metres above the ground in a balloon
Yes. How did you know?

You must be a policy maker
Because you don’t know where you are or where you’re going, and now you’re blaming me....
Lois Privor – Dumm
Director - communications
More Than A Pinprick: A Sly Fudging of Facts Is Pushing India Into Buying Vaccines Backed By The WHO That May Have Killed Children in Other Countries

June 2010

WHO Plugs for Hib Vaccine in India, Critics Say It Is Expensive and Unnecessary

September 2007

Vaccines: Policy for public good or private profit?

January 2008

Pentavalent Vaccine Unsafe, Say Experts

January 2013
Public Interest Litigation to block the introduction of Hib-containing combination vaccine in India, 2010

IN THE HIGH COURT OF DELHI AT NEW DELHI
(CIVIL ORIGINAL JURISDICTION)

Writ Petition (Civil) No. 13698 Of 2009
PUBLIC INTEREST LITIGATION

A Writ Petition in public interest under Article 226 of the Constitution of India highlighting how irrational vaccines are being arbitrarily introduced and promoted by the Government at the behest of vaccine manufacturers and other vested interests.

Memo of Parties
Countries Using Hib Vaccine in their National Immunization Program (2006)

Routine Hib Implementation Status, 2006
- Yes
- No

Countries Using Hib Vaccine in their National Immunization Program (2007)

Routine Hib Implementation Status, 2007

- Red: Yes
- Gray: No

Countries Using Hib Vaccine in their National Immunization Program (2008)

Routine Hib Implementation Status, 2008

- Yes
- No

Countries Using Hib Vaccine in their National Immunization Program (2009)

Countries Using Hib Vaccine in their National Immunization Program (2010)

Hib Vaccine Use in India, by State/Territory (2015)
Countries Using Hib Vaccine in their National Immunization Program (2014)

7 million deaths will have been averted by 2020.

Sources:
GAVI Alliance: http://www.gavialliance.org/support/nvs/pentavalent/#
Aim High and Far
“I have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin, but by the content of their character”
Ciro De Quadros
Florence Nightingale 1864

You will have much opposition to encounter but great works do not prosper without great opposition
Climb every mountain, shore, every stream, follow every rainbow until you meet your dream