

Actualización en el diagnóstico y tratamiento del lactante con fiebre sin focalidad

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Objetivos

- Discutir los factores de riesgo de infección bacteriana grave en el lactante con fiebre, en este momento
- Intentar responder a esta pregunta : ¿Porqué solicitamos pruebas al lactante con FSF y buen estado general?
- Y como conclusión...proponer algunos cambios en el enfoque global de estos pacientes

El niño está estable y tiene buen estado general.....

¿Tendría en cuenta el estado vacunal del lactante para decidir si es preciso realizar pruebas diagnósticas en sangre?



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Early Trends for Invasive Pneumococcal Infections in Children After the Introduction of the 13-valent Pneumococcal Conjugate Vaccine

Sheldon L. Kaplan, MD,* William J. Barson, MD,† Philana Ling Lin, MD,‡ José R. Romero, MD,§
 John S. Bradley, MD,¶ Tina Q. Tan, MD,|| Jill A. Hoffman, MD,** Laurence B. Givner, MD,††
 and Edward O. Mason, Jr., PhD*

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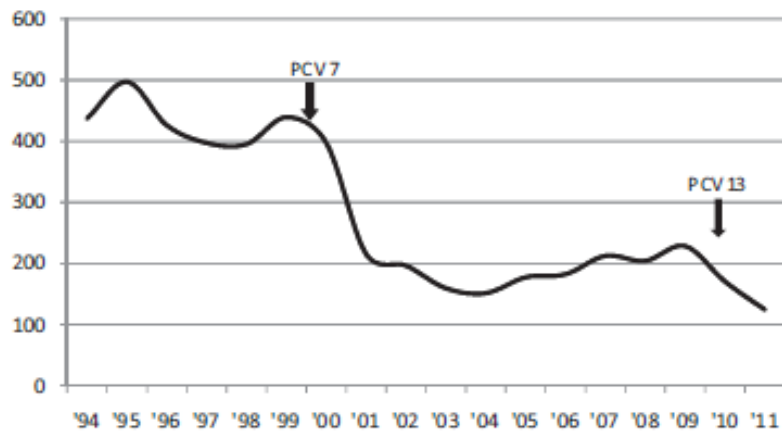


FIGURE 1. Number of IPIs in children among 8 children hospitals by study years, 1994–2011. PCV13 was introduced in 2010. The total annual admissions among the 8 children hospitals over the last 3 study years were 2009: 111,969; 2010: 114,615; and 2011: 118,077.

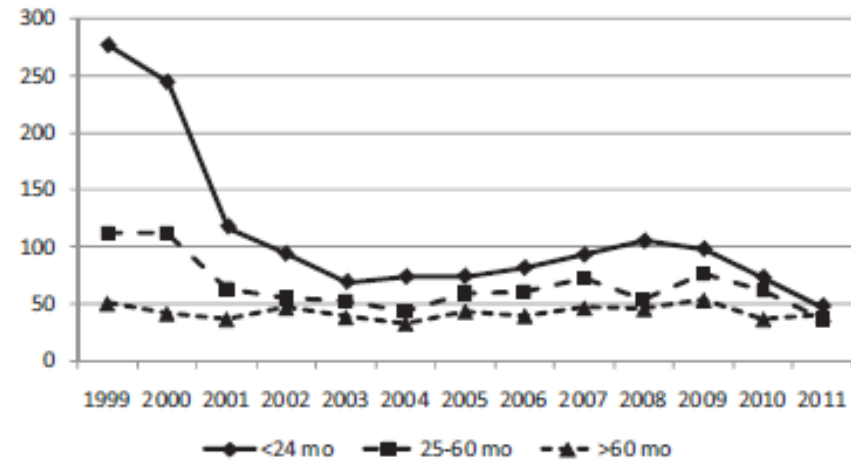


FIGURE 2. Age distribution of children with IPIs (number of infections on the vertical axis) among 8 children hospitals by study year, 1999–2011.

Incidencia de BO actual en lactantes de 3-36 m de edad (EEUU)

OB Rates by Age Group

	Cases	<i>n</i>	Rate (%)*	95% CI
3 to <12 months	12	4,653	0.26	0.14, 0.43
12 to <24 months	5	2,993	0.17	0.06, 0.36
24 to <36 months	4	762	0.52	0.15, 1.21

CI = confidence interval; OB = occult bacteremia.
*p-Value for difference among age groups is 0.21.

Wilkinson et al. Prevalence of Occult Bacteremia in Children Aged 3 to 36 Months Presenting to the Emergency Department with Fever in the Postpneumococcal Conjugate Vaccine Era. Acad Emerg Med. 2008.



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Estrategias de manejo de lactantes de 3-36 meses con FSF

- Incidencia de BO = 1.5%
 - Abordaje con mejor coste-efectividad:
 - RL
 - HC selectivo
 - Antibiótico selectivo

- Incidencia BO < 0.5%
 - Abordaje con mejor coste-efectividad: “no hacer pruebas”

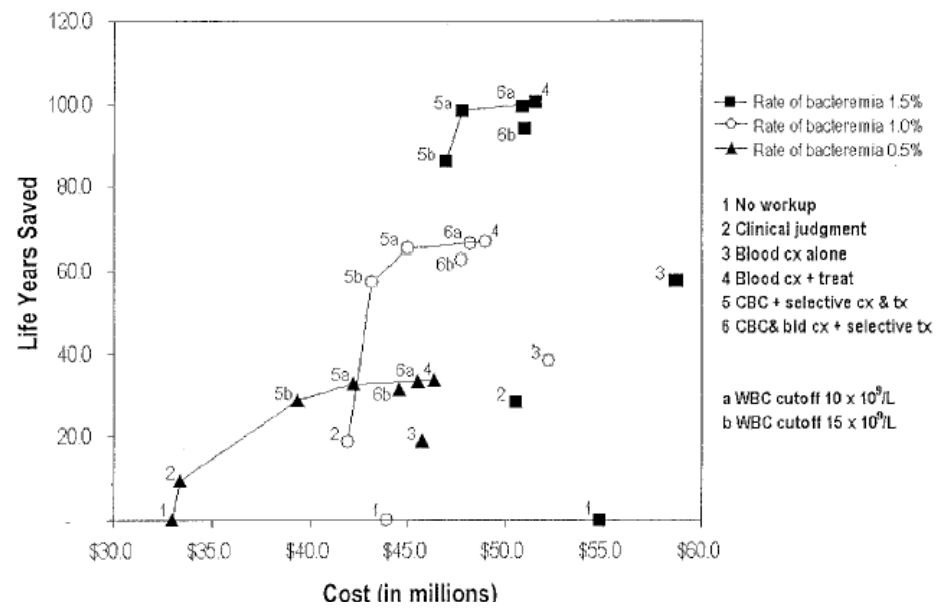


Fig 2. CE of 6 different strategies at varying rates of bacteremia.

Lee GM, Fleisher GR, Harper MB. Management of febrile children in the age of conjugate pneumococcal vaccine: A Cost- Effectiveness Analysis. Pediatrics 2001;108:835-844.

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OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Prospective Evaluation of the Risk of Serious Bacterial Infection in Children Who Present to the Emergency Department With Hyperpyrexia (Temperature of 106°F or Higher)

Barbara W. Trautner, A. Chantal Caviness, Gary R. Gerlacher, Gail Demmler and Charles G. Macias

Pediatrics 2006;118;34

DOI: 10.1542/peds.2005-2823

≥ 41°C

“Children with hyperpyrexia are at equally high risk for serious bacterial infection and for viral illness.”

“We recommend consideration of antibiotic treatment for all children presenting to the emergency department with hyperpyrexia without confirmed viral illness.”



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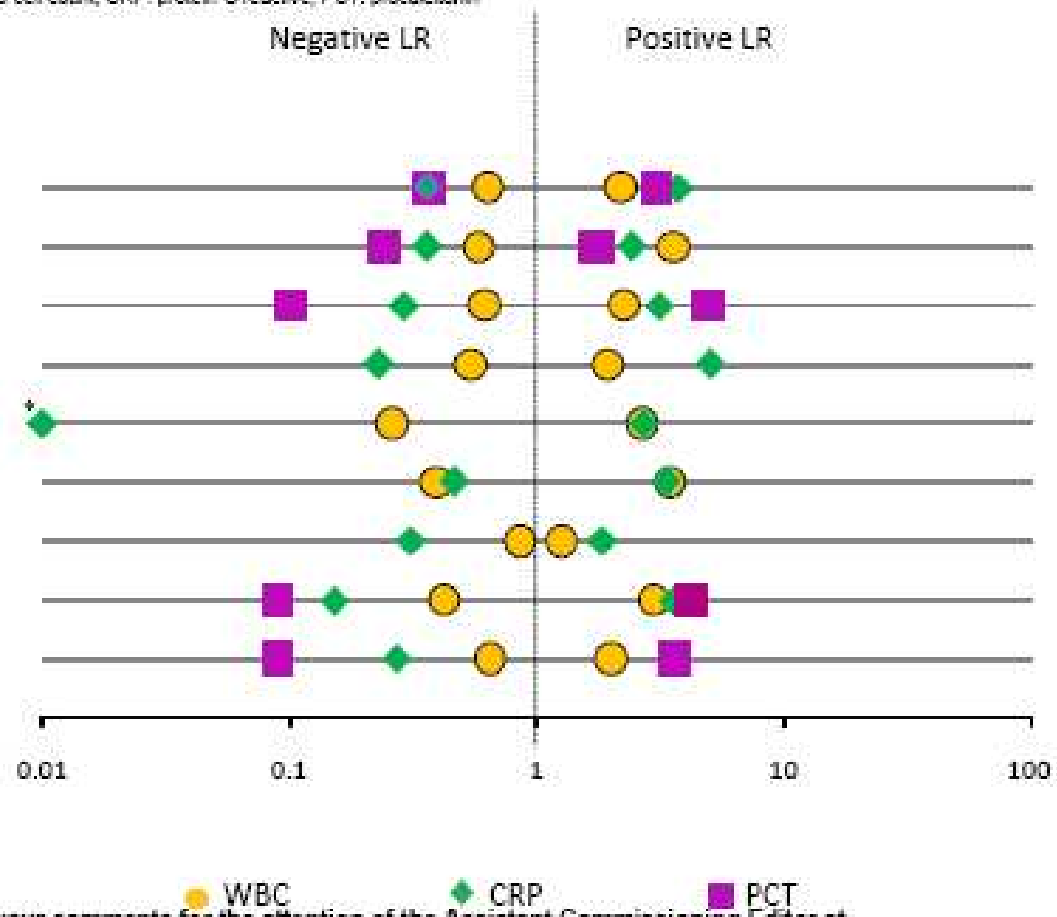
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LR de RF, PCR y PCT para predecir IBG en lactantes con FSF

n: number of patients, LR: likelihood ratio, WBC: white blood cell count, CRP: protein-C reactive, PCT: procalcitonin
 *Value of LR: 0

Study	Year	n
Andreola et al.[2]	2007	408
Thayyil et al.[1]	2005	72
Fernandez et al.[22]	2003	445
Pulliam et al.[6]	2001	77
Pratt et al.[3]	2007	119
Isaacman et al.[7]	2002	256
Berger et al.[34]	1996	138
Galetto Lacour et al.[4]	2001	124
Galetto Lacour et al.[5]	2003	99



**Lactante de 3-24 meses de edad
previamente sano con FSF**

- Oxígeno
- Salino 20 mL/kg en bolo
- Cefotaxima IV 75 mg/kg/dosis (máx. 4 g/dosis)
- Monitorización
- Pruebas. Considerar protocolo sepsis *
- Ingreso

Inestable



Estable

Tª > 40.5°C

No

- Orina si fiebre > 39°C en todas las niñas y en niños < 12 meses
- Antitérmicos
- Observación domiciliaria
- Seguimiento en 24 horas

Sí

- Orina en todas las niñas y en niños < 12 meses
- Considera PCT, Hemograma y hemocultivo, sobre todo si ha recibido menos de dos dosis de VCN.

Si consideras analítica

¿Epidemia gripal?

No

**PCT, Proteína C Reactiva, Hemograma
PCR meningococo-neumococo. Hemocultivo**

Sí

TDRI

-

+

- PCT ≥ 0.5 ó
- Leucocitos > 15.000 ó
- Neutrófilos > 10.000 ó
- PCR > 40mg/L

- Ceftriaxona IM 50 mg/kg
- Alta. Si PCT elevada, considera fuertemente la observación en Urgencias
- Seguimiento en 24 h

- PCT < 0.5 +
- Leucocitos ≤ 15.000 +
- Neutrófilos ≤ 10.000 +
- PCR ≤ 40mg/L

- Alta
- Observación domiciliaria
- Seguimiento en 24 h

- * Protocolo sepsis
- Hemograma, PCR, PCT, coagulación, UGI, creatinina
- Otras pruebas: transaminasas, bilirrubina, lactato, Ca iónico, fosfato, proteínas totales, CK, gasometría venosa.
- Hemocultivo y PCR meningococo-neumococo en sangre



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Vamos con el lactante < 3 meses con fiebre sin focalidad



Incidencia de IBG en lactantes < 3 meses

Study	number	SBI %	Blood Cult. %	CSF %
Gómez et al. PIDJ 2010	1018	19.4	2.2	0.4
Bressan et al. PIDJ 2010 (< 1 mo)	156	25.3	5.0	3.0
Olaciregi et al. Arch Dis Child 2009	347	23.6	3.9	0
Maniaci et al. Pediatrics 2008	294	17.9	2.5	0



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Diagnostic Value of Procalcitonin in Well-Appearing Young Febrile Infants
Borja Gomez, Silvia Bressan, Santiago Mintegi, Liviana Da Dalt, Daniel Blazquez,
Izaskun Olaciregui, Mercedes de la Torre, Miriam Palacios, Paola Berlese and Aitor
Ruano

Pediatrics 2012;130:815; originally published online October 29, 2012;

1123 lactantes; IBI 23 (2,1%; 10 hospitales)

FACTORES DE RIESGO CLÁSICOS IBI

- 1.Sexo masculino
- 2.Tira de orina
- 3.PCR
- 4.PCT
- 5.Leucocitos
- 6.Neutrófilos

ANÁLISIS UNIVARIANTE

- 1.Sexo masculino
- 2.Tira de orina
- 3.PCR
- 4.PCT
- 5.Leucocitos
- 6.Neutrófilos

ANÁLISIS MULTIVARIANTE

PCT

PCT ≥ 0.5
OR :21.69



Accuracy of a sequential approach to identify young febrile infants at low risk for invasive bacterial infection

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ABSTRACT

Introduction Much effort has been put in the past years to create and assess accurate tools for the management of febrile infants. However, no optimal strategy has been so far identified. A sequential approach evaluating, first, the appearance of the infant, second, the age and result of the urinalysis and, finally, the results of the blood biomarkers, including procalcitonin, may better identify low risk febrile infants suitable for outpatient management.

Objective To assess the value of a sequential approach ('step by step') to febrile young infants in order to identify patients at a low risk for invasive bacterial infections (IBI) who are suitable for outpatient management and compare it with other previously described strategies such as the Rochester criteria and the Lab-score.

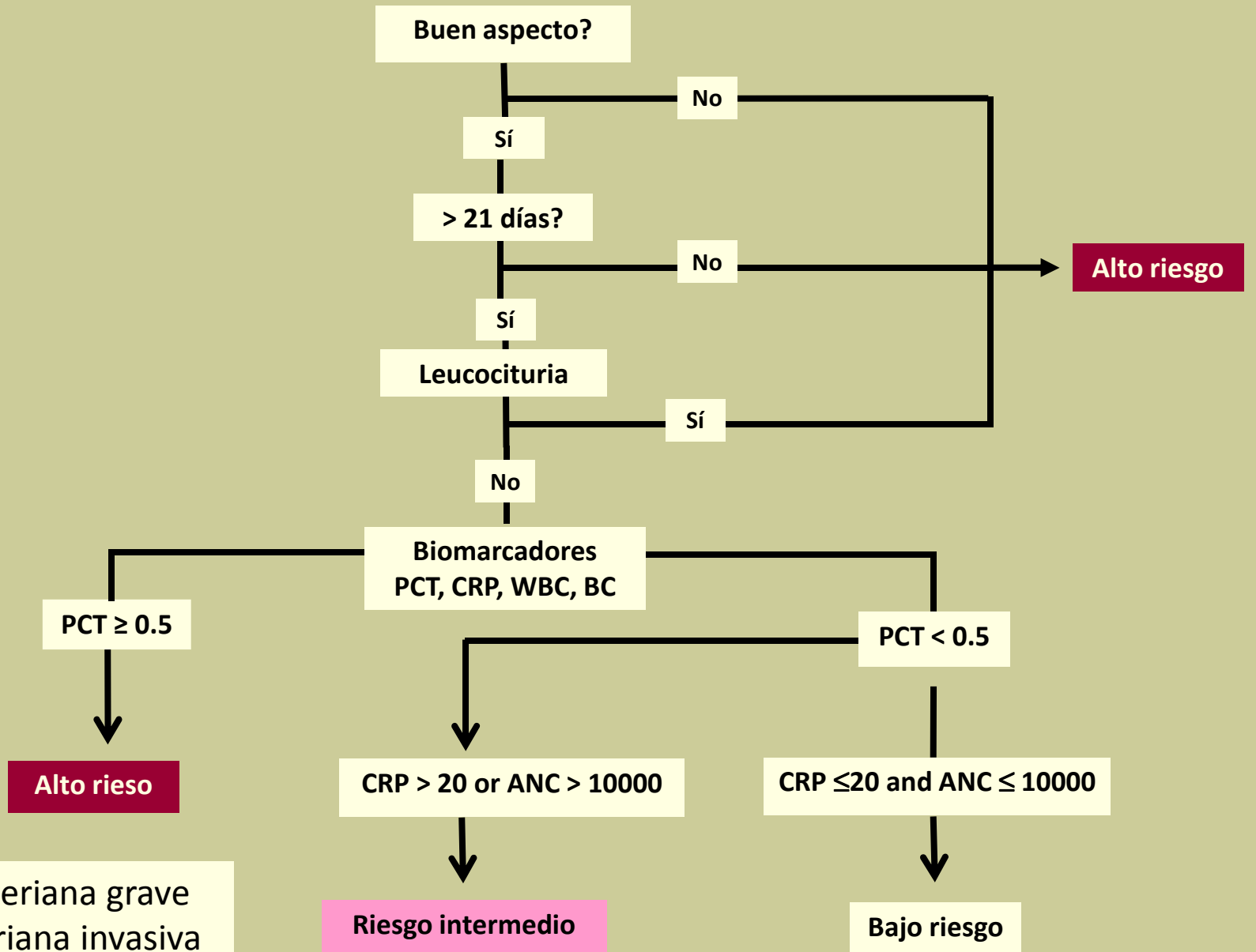
Methods A retrospective comparison of three different

it is necessary to identify those patients at low risk for SBI and, mainly, invasive bacterial infection (IBI).

Several attempts have been made in order to identify patients with low-risk criteria for SBI.³⁻⁶ Usually, low-risk criteria include a combination of clinical and laboratory data. However, the contribution of each parameter in predicting SBI is different. As the most common SBI in this age group is urinary tract infection (UTI),⁴ the yield of urinalysis, compared with blood markers or other tests, is the highest. Blood biomarkers are more helpful in predicting bacteraemia or meningitis. However, the value of these tests is controversial. Recent studies have shown that white blood cell (WBC) count has a poor value in the diagnosis of bacteraemia and other bacterial infections in these infants.^{7,8} In fact, WBC count has been relegated in the more recently developed scores to identify patients at higher risk



Lactante menor de 3 meses con FSF



IBG: Inf bacteriana grave
IBI: Inf bacteriana invasiva

Conclusiones

- El manejo del lactante de 3 a 24 meses de edad, con fiebre y buen estado general debe ser cada vez más individualizado. Es aconsejable realizar test en sangre:
 - cobertura vacunal incompleta
 - antecedentes de enfermedad predisponente
 - Hiperpirexia ($> 40^{\circ}\text{C}$) ???
- El marcador más útil es PCT, pero queda por definir el papel del HG y PCR

Conclusiones

- La aproximación secuencial en el manejo del lactante < de 3 meses de edad y con fiebre sin focalidad, es la más segura para detectar el paciente de bajo riesgo de IBG.
- El test rápido para influenza puede ser utilizado durante la temporada epidémica para seleccionar pacientes de bajo riesgo de IBG.



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