


# O.R.I.A.

## Uso appropriato della pro-calcitonina : esperienze e prospettive in provincia di Reggio Emilia

 Le modalità d'uso di questo analita sono state e tutt'ora sono ampiamente dibattute anche a livello Regionale (vedi progetto "LASER" Lotta Alla Sepsis in Emilia Romagna).

 Vi è una importante quantità di letteratura scientifica per questa molecola che non ha ancora trovato una "casa sicura in cui fermarsi" tanto è vero che di volta in volta viene presentata come utile in ambito diagnostico ,per il monitoraggio terapeutico e anche per la prognosi dei pazienti con infezioni severe .Riteniamo importante un confronto tra professionisti che sul campo hanno maturato esperienza nella richiesta , nella esecuzione e nell'impiego clinico di questo test.

### Programma

S. De Franco	motivazioni della iniziativa	10'
R.Baricchi	cenni sui dati della letteratura più recente	15'
A. Parisoli	i "nostri" metodi analitici	15'
P. Salsi	richiesta e utilizzo nel "mio" reparto	15'
G. Chesi	richiesta e utilizzo nel "mio" reparto	15'
E. Gabbi	richiesta e utilizzo nel "mio" reparto	15'
S. Maccari	richiesta e utilizzo nel "mio" reparto	15'
	Discussione	30'

## R.Baricchi : riassunto (?) della letteratura più recente

### Medline

 Mesh procalcitonin [Substance Name] glycoprotein precursor of unglycosylated 32 amino acid hormone;

Date introduced: April 27, 1981 da allora circa 700 citazioni

 "procalcitonin "[Substance Name] published in the last 5 years Core clinical journals \*  
**74** items

 "Procalcitonin"[Substance Name] AND "Sepsis"[Mesh] Limits: published in the last 5 years **168** items

Core clinical journals **28** items

 "Procalcitonin "[Substance Name] AND "Systemic Inflammatory Response Syndrome"[Mesh] Limits: published in the last 5 years **186**

 Core clinical journals **28** items

Core clinical journals\*  
Total: **119** titles

## Come esempio

fibrin fragment D Mesh[Substance Name]

Date introduced: December 1, 1982

- published in the last 5 years, Core clinical journals items **143**
- "fibrin fragment D "[Substance Name] AND "Pulmonary Embolism"[Mesh]
- Limits: published in the last 5 years, Core clinical journals Items **62**






## Cochrane

[Reviews \[1\]](#) | [Other Reviews \[7\]](#) | [Clinical Trials \[64\]](#) | [Methods Studies \[0\]](#) | [Technology Assessments \[1\]](#) | [Economic Evaluations \[1\]](#) | [Cochrane Groups \[0\]](#)


[Reviews \[1\]](#) |

**Procalcitonin to initiate or withhold antibiotics in acute respiratory tract infections**  
**Year: 2008**

## Other Reviews [7]

-  **Does serum procalcitonin have a role in evaluating the severity of acute pancreatitis: a question revisited (Structured abstract)**  
Centre for Reviews and Dissemination2006
-  **Estimating the diagnostic accuracy of procalcitonin as a marker of the severity of acute pancreatitis: a meta-analytic approach (Provisional abstract)**  
Centre for Reviews and Dissemination2005
-  **Procalcitonin as a diagnostic test for sepsis in critically ill adults and after surgery or trauma: a systematic review and meta-analysis (Provisional abstract)**  
Centre for Reviews and Dissemination2006
-  **Procalcitonin test in the diagnosis of bacteremia: a meta-analysis (Structured abstract)**  
Centre for Reviews and Dissemination2007
-  **Serum procalcitonin and C-reactive protein levels as markers of bacterial infection: a systematic review and meta-analysis (Provisional abstract)**  
Centre for Reviews and Dissemination2006

 **The Centre for Reviews and Dissemination is a department of the University of York and is part of the National Institute for Health Research.**

 **CRD undertakes high quality systematic reviews that evaluate the effects of health and social care interventions and the delivery and organisation of health care.**

## Technology Assessments [1]

 **Serum procalcitonin (PCT) as a marker of bacterial lower respiratory tract infection:**


 **National Horizon Scanning Centre**  
**Original Author(s): National Horizon Scanning Centre**  
**Year: 2007**

 **Department of Public Health and Epidemiology, The University of Birmingham**

The National Horizon Scanning Centre Research Programme is part of the National Institute for Health Research

The National Horizon Scanning Centre is a member of the International Information Network for New and Changing Health Technologies

## Economic Evaluations [1]

 **Effect of procalcitonin-guided treatment on antibiotic use and outcome in lower respiratory tract infections: cluster-randomised, single-blinded intervention trial (Structured abstract)**  
**Centre for Reviews and Dissemination**  
**Year: 2004**



The study population comprised patients admitted to the hospital with cough and/or dyspnoea, and a suspected lower respiratory tract infection as the main diagnosis. Lower respiratory tract infection included pneumonia, chronic obstructive pulmonary disease (COPD), acute bronchitis and asthma. Definitions of pneumonia, COPD, acute bronchitis and asthma were reported in detail. Severely immunocompromised patients (i.e. those with human immunodeficiency virus infection and a CD4 count less than 200 cells/mL) were excluded, as were neutropenic patients and stem-cell transplant recipients. Also excluded were those with cystic fibrosis or active tuberculosis, and individuals with nosocomial pneumonia.

The study examined a hospital protocol for the appropriate use of antibiotics in lower respiratory tract infections. The protocol was based on the use of procalcitonin levels, to rapidly and accurately differentiate clinically relevant bacterial lower respiratory tract infections from viral causes, **in order to combat the increase of antibiotic-resistant microorganisms**. A serum procalcitonin concentration of:

**0.1** microg/L or less indicated an absence of bacterial infection, and the use of antibiotics was strongly discouraged;

**0.1 - 0.25** microg/L indicated that bacterial infection was unlikely, and the use of antibiotics was discouraged;

**0.25 - 0.5** microg/L indicated a possible bacterial infection, and the treating doctor was advised to initiate antimicrobial treatment;

**0.5** microg/L or greater was judged suggestive of the presence of bacterial infection, and antibiotic treatment was strongly recommended.

For patients on antimicrobial therapy at the time of hospital admission, discontinuation of antibiotics was recommended if the procalcitonin concentration was less than **0.25** microg/L.

## **Clinical conclusions**

The effectiveness analysis showed that the guidelines significantly reduced antibiotic use without affecting other aspects of health and health care.

# I nostri dati

<b>Anno</b>	<b>n° Test</b>
<b>2006</b>	<b>3029</b>
<b>2007</b>	<b>4151</b>
<b>2008</b>	<b>5563 ( di cui urgenti 4867)</b>
<b>2009</b>	<b>6732 (proiezione su 5 mesi di cui urgenti 5940)</b>

**2008**                    **5563 ( di cui urgenti 4867)**

**Med I (288)**

**Med III (168)**

**Pediatria (288)**

**Infettivi (262)**

**Geriatrics (262)**

**P.S (100)**

**PS ped. (490)**

**Rianimazione (1840)**

**Med I Scandiano (520)**

**C.Monti (284)**

**2009 6732 (proiezione su 5 mesi di cui urgenti 5940 )**

**Ch 2 deg (210)**

**Med I (366)**

**Med III (128)**

**Med II (150)**

**Urologia (210)**

**Pediatria (510)**

**Infettivi ( 222)**

**Geriatrics (360)**

**PS (190)**

**PS Ped (600)**

**Rianimazione (1722)**

**Med I Scandiano (678)**

**C.Monti (340)**

## **Ma cosa interessa di più al clinico ?**

**Avere i CV del test ?**

**Avere sensibilità/specificità del test sepsi / s. severa ?**

**Avere la LR + o - per sepsi / s. severa?**

**Avere Note generiche a referto ?**

**Avere Note personalizzate al referto ?**

**Nessuna nota a referto ? Ma non tutti sanno interpretare correttamente i risultati**

**Note Personalizzate , ma come ?**

**per ipotesi diagnostica ?**

**per reparto ?**

**Avere i risultati in 30' ?**

## Alcune considerazioni

Procalcitonin in the **elderly**: normal plasma concentrations and response to bacterial infections *European Journal of Clinical Microbiology & Infectious Diseases, Volume 24, Number 11 / November, 2005*

Procalcitonin (PCT) in patients with **abdominal sepsis** *Intensive Care Medicine, Volume 26, Number 2 / February, 2000*






Usefulness of procalcitonin serum level for the **discrimination** of severe sepsis from sepsis: a multicenter prospective study *Journal of Infection and Chemotherapy, Volume 14, Number 3 / June, 2008*

Serum procalcitonin measurement contribution to the **early diagnosis of candidemia** in critically ill patients *Intensive Care Medicine, Volume 32, Number 10 / October, 2006*

Multicenter prospective study of procalcitonin as an **indicator of sepsis** *Journal of Infection and Chemotherapy, Volume 11, Number 3 / June, 2005*



## Per fare questo non ci si può esimere da...

-  **Gruppo di lavoro interaziendale Multidisciplinare**
-  **Scanning letteratura**
-  **Proposta per una richiesta appropriata**
-  **Proposta per un referto che aiuti una interpretazione appropriata**
-  **Audit**