ESITI CLINICI: UN IMPEGNO ED UNA RESPONSABILITÀ CONDIVISI

10° CONGRESSO NAZIONALE SIFaCT

24-26 novembre 2022
Centro congressi Fontana di Trevi
Roma

- CASO CLINICO
- Dott.sse Cecilia Giron e Alessia Salvador

Sifact
SOCIETÀ ITALIANA DI FARMACIA CLINICA E TERAPIA

Caso Clinico – Tommaso, età 11 giorni

- Nato a termine con parto indotto, perinatalità regolare. TVR negativo
- PC alla nascita 3.240 g,
- PC alla dimissione dal nido 3.050 g,
- Ultimo PC 3.440 g in allattamento materno a richiesta circa ogni 3 ore

- **30.12.2021: ore 1.00** a risveglio notturno la mamma lo sente caldo, gli misura la febbre 38°C. Dal pomeriggio riferito lamentoso e con coliche. Non ha scaricato da ieri mattina. Alimentazione regolare ma rigurgita ai pasti.

  Ingresso al PS pediatrico

  ore 2.30:
  - stick urine
  - tampone molecolare per Covid-19
  - monitoraggio TC
  - emocromo PCR e PCT; EGA
  - emocoltura, urinocoltura

  ore 4.30:
  - TC 37.7°C
  - Stick urine negativo per leucociti
  - EGA nella norma
  - Emocromo nella norma; PCR 0,25 mg/L; PCT 0,26 μg/L

Caso Clinico – Tommaso, età 11 giorni

- ore 9.00 Ricovero in PEDIATRIA
- ore 9.30 valutazione clinica
  - ore 8.00: Tc max 38°C
  - ore 9.30: Tc 37.4°C
  - Si è alimentato al seno con sunzione vigorosa. Non ha scaricato. Pannolino bagnato di urine limpide.
  - Neonato in discrete condizioni generali, **più lamentoso di quanto descritto nella notte**. Pianto vigoroso se stimolato o disturbato, **flebile e lamentoso a riposo**. **Colorito leggermente giallastro**. T refill 2 sec., non rash. Polsi femorali palpabili
  - Non segni di dispnea, ingresso d'aria buono e simmetrico senza rumori aggiunti. SatO2 100% a.a.
  - FC 165/min, toni validi, no soffi
  - Fontanella normotesa, tono muscolare discreto, motilità attiva normorappresentata. Riflessi neonatali evocabili.
  - Ematochimica: emocromo nella norma, non piastrinopenia, PCR 0,5 mg/L PCT 0,4 µg/L
  - Profilo coagulativo PT e PTT nella norma, **modesto aumento aspecifico D dimero**
  - Come workout della sepsi neonatale si procede a **rachicentesi**
  - Si invia 2° campione per urinocoltura, campione per coprocoltura, ricerca virus patogeni respiratori
  - Tampone molecolare COVID-19 in corso (madre negativa)

❖ Data l'evoluzione clinica e l'età del piccolo si decide di avviare quindi copertura antimicrobica:

- ✓ ampicillina 100 mg/kg per 4
- ✓ gentamicina 5 mg/kg per 1
- ✓ aciclovir ev 20 mg/kg per 3

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DOVE INTERVIENE IL FARMACISTA:

- Indicazioni terapeutiche (on-label, 648/96, off-label?) e appropriatezza prescrittiva
- Corretta posologia e modalità di somministrazione
- Interazioni farmacologiche
- Corretta preparazione del farmaco da infondere con particolare attenzione alle peculiarità della somministrazione nel neonato
- Alert per ADR

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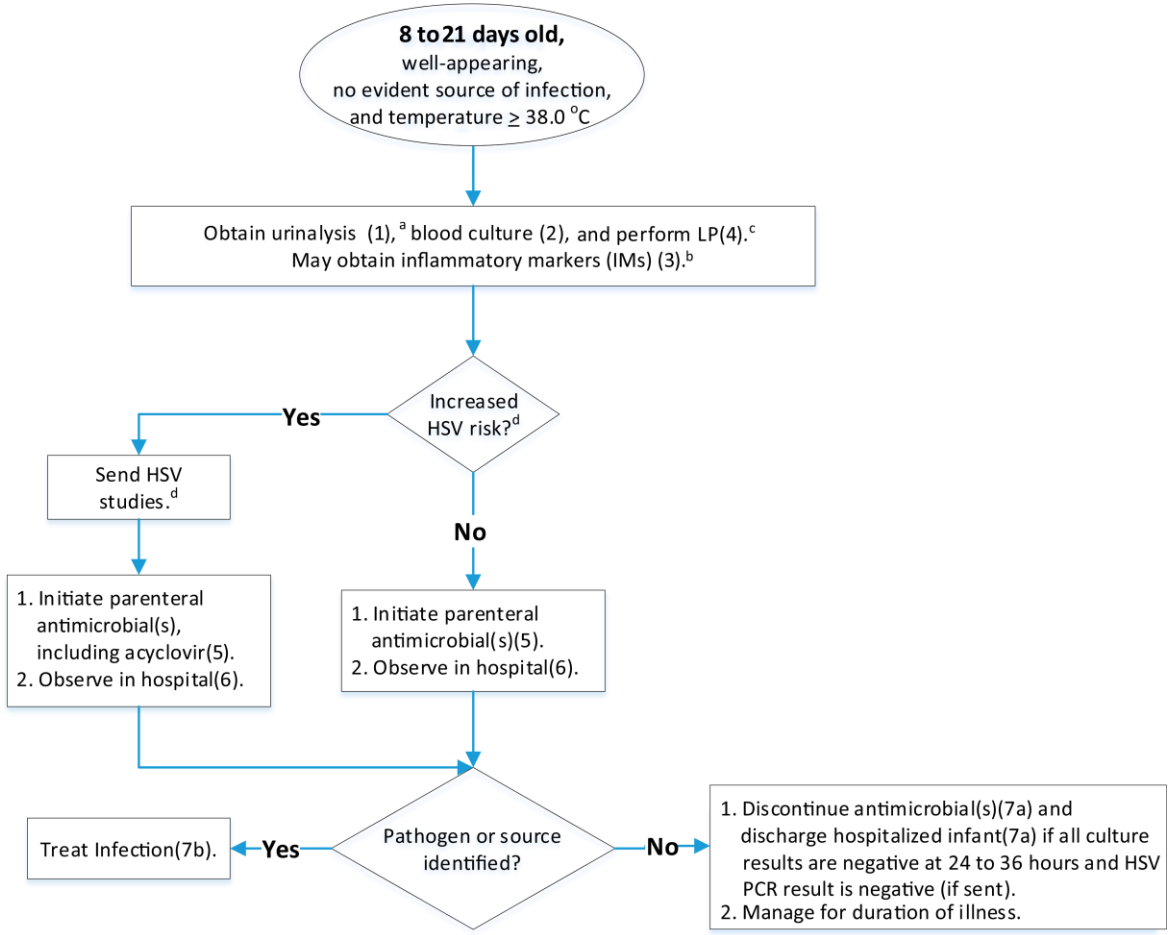
American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Clinical Practice Guideline: Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old



Laboratory values of inflammation are considered elevated at the following levels:

(1) procalcitonin >0.5 ng/mL, (2) CRP >20 mg/L, and (3) ANC >4000, >5200 per mm^3. It is recommended that all infants in this age group have a **complete sepsis workup**, **receive parenteral antimicrobial agents**, and be **monitored in a hospital**, knowing IM results can potentially guide ongoing clinical decisions. [c] Send CSF for cell count, Gram stain, glucose, protein, bacterial culture, and enterovirus PCR (if available) if pleocytosis is present and during periods of increased local enterovirus prevalence. [d] HSV should be considered if the mother has genital HSV lesions or fever from 48 hours before to 48 hours after delivery and in infants with vesicles, seizures, hypothermia, mucous membrane ulcers, CSF pleocytosis in the absence of a positive Gram stain result, leukopenia, thrombocytopenia, or elevated alanine aminotransferase levels.

Recommended HSV studies are CSF PCR; HSV surface swabs of the mouth, nasopharynx, conjunctivae, and anus for an HSV culture (if available) or PCR assay; alanine aminotransferase; and blood PCR.

Pediatrics. 2021;148(2). doi:10.1542/peds.2021-052228

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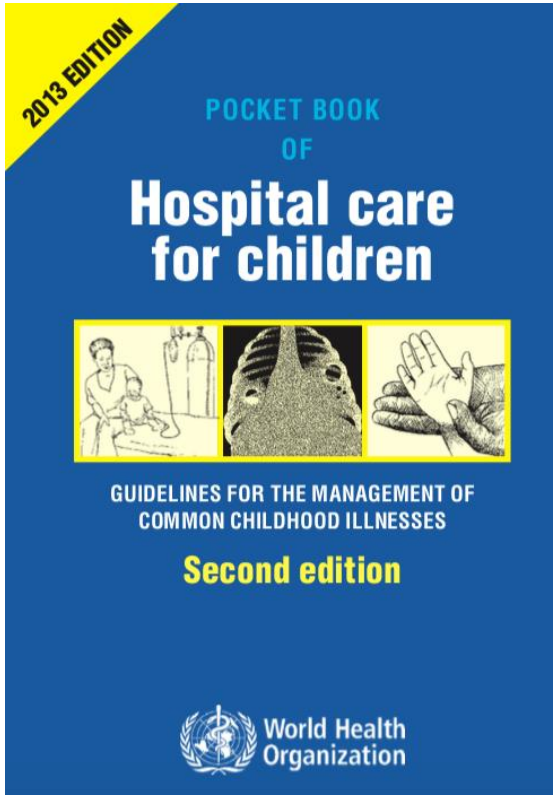

- For newborns with any signs of serious bacterial infection or sepsis, give ampicillin (or penicillin) and gentamicin as first-line antibiotic treatment (for dosages see pp. 69–72)

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Editorial

WHO hospital care for children guidelines: what do users need?

Trevor Duke [1,2] Wilson Were[3]

In 2020, the World Health Organization is revising the Pocketbook of Hospital Care for Children,[1] and we need your input. The Pocketbook of Hospital Care for Children contains guidelines for the management of common childhood illnesses. The target audience is non-specialist or junior doctors or clinical officers, paediatric and general nurses and other healthcare workers who find themselves providing care for sick children in settings such as at district or provincial hospitals in low-income and middle-income countries. It is not a textbook of paediatrics, but an evidence-based practical clinical guideline. We want to know what you like about the book, where there are gaps, whether new diseases or conditions should be included, and whether any differences in formatting or structure or companion resources would make it easier to use. We seek your input on what, when and for whom a physical book is still useful, and for what needs it might be better to provide online content.

HISTORY OF THE WHO POCKETBOOK OF HOSPITAL CARE FOR CHILDREN

In 2005, the first edition of the Pocketbook of Hospital Care for Children was published. This followed a guideline book called Management of a Child with Serious Infection or Severe Malnutrition, published in 2000. The earlier book covered common infections in children plus malnutrition, and reflected the epidemiology of childhood illnesses in low-income and middle-income countries at the time. This first integrated guideline was well received, seen as an advance on separate guidelines such as for acute respiratory infection, diarrhoea, measles and malaria, and useful for the child health worker who had to deal with the case-mix that presents to a district hospital. It was an extension of the Integrated Management of Childhood Illness (IMCI) to a hospital level. IMCI focused on primary care,[2] but if hospitals of first referral had no guidelines and provided poor quality care, then IMCI would have limited effectiveness.

Health workers rightly pointed out that at a district hospital, they dealt with more than infections and malnutrition. And they needed to be able to carry a book around with them. Thus, the broader scope and pocket-size of the pocketbook of Hospital Care for Children. The book included other common conditions, such as asthma, seizures, surgical problems and importantly neonatal care. Health workers also pointed out that guidelines alone were not sufficient, and they needed training tools on how to use the guidelines in everyday clinical practice. A training course was developed on how to use the guidelines in everyday clinical practice, based on principles of adult learning.[3 4] WHO developed the Emergency Triage, Assessment and Training (ETAT) course, focused on the first 24 hours of admission, and in Africa, ETAT+ was a modified version which included admission care.[5] Many quality improvement assessments and initiatives occurred, supported by WHO regional offices or initiated by countries.[4]

In 2013, the Pocketbook of Hospital Care for Children was revised, with updates in many areas. Many reviews were undertaken to identify new evidence for the revisions. An app was produced, and training materials updated.[6] By 2015, at least two-thirds of low-income and middle-income countries adopted the Hospital Care for Children guidelines, and ran training courses or other quality improvement initiatives.[7]

The Pocketbook of Hospital Care for Children has been used as the basis for paediatric curricula for medical students and nurses in many low-income and middle-income countries, and has been translated into at least 18 languages.[3] A number of country and regional adaptations of the book have been achieved to reflect differences in disease epidemiology and local needs.

THE FUTURE

In 2020, what is needed of WHO Pocketbook of Hospital Care for Children? That is what we seek your input on. The epidemiology of child health has changed substantially in the last 20 years. More children are living with chronic conditions, there is a greater need to focus on quality of life and healthy development, and a recognition of the need for long-term care that extends from hospital to community. In the last 20 years, there has been an increased recognition of the importance of adolescent health, long-term care of high-risk newborns and a life-course approach. Antimicrobial resistance has markedly increased: and is a problem in the treatment of common bacterial infections in neonates and children, malaria, tuberculosis and HIV. This means effective treatments are more complex, often calling for 'second-line' guidance (such as clinical thresholds for changing antibiotics in common infections, and what second-line antibiotics to use). Many children need treatments that are individualised, based on tests that were previously unavailable (such as GeneXpert for multidrug-resistant TB, and CD4 counts and viral load testing for HIV). WHO Quality Standards for Care of Children have been published, and these call for more holistic paediatric services, and greater focus on family-centred care, and child-friendly services.[8] And a pandemic of COVID-19 has disrupted so much in health services this year, so we need to keep balance, deal with the present, learn the lessons and look optimistically to the future. Such a book of clinical guidelines can drive change by setting standard, but it also has to be feasible in the context it will be used and remain relevant to the target audience.

Let us know how you think the WHO Pocketbook of Hospital Care for Children needs to be revised for the coming decade, as countries work to recovery after COVID-19 and to achieving the Sustainable Development Goals. Please email your suggestions with the subject heading: Feedback on Hospital Care for Children.

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[2]Child Health, School of Medicine and Health Sciences, University of Papua New Guinea, Port Moresby, Papua New Guinea
[3]Maternal, Child and Adolescent Health, World Health Organization, Geneva, Switzerland

Correspondence to Professor Trevor Duke, Intensive Care Unit and University of Melbourne Department of Paediatrics, Royal Childrens Hospital, Parkville, VIC 3052, Australia; trevor.duke@rch.org.au

Contributors TD wrote the first draft, which was reviewed by WW.

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Provenance and peer review Commissioned; externally peer reviewed.

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Duke T, Were W. WHO hospital care for children guidelines: what do users need? Arch dis child. 2020 aug;105(8):711-712. Doi: 10.1136/archdischild-2019-318752. Epub 2020 may 14. Pmid: 32409496.

Caso Clinico – Tommaso, età 11 giorni

INDICAZIONI TERAPEUTICHE

ACICLOVIR 250 mg ev

Infezioni da *Herpes simplex* e da *Varicella-zoster* in pazienti immunocompromessi
Profilassi delle infezioni da *Herpes simplex* in pazienti gravemente immunocompromessi
Forme ricorrenti di infezioni da virus *Varicella-zoster* e forme gravi di *Herpes genitalis* primario in soggetti con normale funzione immunitaria
Encefalite da virus *Herpes simplex*
Trattamento delle infezioni da *Herpes simplex* nei neonati.

AMPICILLINA 1 g ev

Infezioni da germi Gram-positivi e Gram-negativi sensibili all'Ampicillina e particolarmente: infezioni delle vie respiratorie, infezioni delle vie urinarie, infezioni gastrointestinali, otiti, endocarditi, sepsi da germi sensibili, gonorrea trattamento antibiotico pre e postoperatorio, infezioni chirurgiche, infezioni da *Haemophilus influenzae* e infezioni delle vie biliari.

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INDICAZIONI TERAPEUTICHE

GENTAMICINA SOLFATO 80 mg ev

Infezioni da germi sensibili alla gentamicina:

- Forme pleuro-polmonari
- Infezioni urinarie acute e croniche
- Stati settici
- Infezioni del sistema nervoso
- Infezioni chirurgiche
- Infezioni otorinolaringoiatriche
- Infezioni ostetrico-ginecologiche
- Ustioni

Nelle **infezioni da germi Gram-negativi** sospette o documentate, gentamicina solfato può essere considerato come **farmaco di scelta**
Nelle infezioni gravi che mettono in pericolo la vita del paziente, gentamicina solfato può essere somministrata in associazione ad un antibiotico betalattamico.
Nella **primissima infanzia** il prodotto va somministrato **solo nei casi di effettiva necessità**.

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POSOLOGIA E MODALITÀ DI SOMMINISTRAZIONE

ACICLOVIR

La **dose di aciclovir soluzione per infusione** nei neonati e nei bambini ≤ tre mesi di età deve essere **calcolata sulla base del peso corporeo**.
La dose raccomandata per il trattamento nei neonati con nota o sospetta infezione da herpes neonatale è di **20 mg/kg di peso corporeo ogni 8 ore per 21 giorni nel caso di malattia diffusa** e localizzata a livello del sistema nervoso centrale o per **14 giorni nel caso di malattia limitata alla cute e alle mucose.**
La dose deve essere somministrata per **infusione venosa lenta** in un intervallo di **tempo di un'ora**.

AMPICILLINA

0-5 anni: 100 mg/kg/die frazionati **in 3 somministrazioni**.
N.B. Le dosi possono essere aumentate nei casi gravi a giudizio del medico.

GENTAMICINA

Gentamicina può essere somministrata per via **endovenosa o intramuscolare** al medesimo dosaggio.
Neonati a termine (3,5-5 kg): **2-2,8 mg/kg ogni 12 ore**
La **durata** del trattamento è in genere di **7-10 giorni**. Nelle infezioni gravi o complicate può rendersi necessario un trattamento più prolungato. In tali casi può aumentare il rischio di effetti secondari, si dovrà rivolgere particolare attenzione al controllo della funzionalità renale, uditiva e vestibolare.
E' comunque **consigliabile** continuare la terapia per **almeno 48 ore dopo lo sfebbramento**.

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INTERAZIONI FARMACOLOGICHE

04.5 Interazioni con altri medicinali e altre forme di interazione - [Vedi Indice]

È noto un effetto terapeutico sinergico tra penicilline semisintetiche ed aminoglicosidi.

ISTITUTO DI RICERCHE FARMACOLOGICHE MARIO NEGRI - IRCCS

INTERCheck WEB

PAZIENTI | VALUTAZIONE RISCHI | DATI ESTERNI | DOCUMENTAZIONE | PRIVACY E CONTATTI | UTENTE

VERIFICA DELLE INTERAZIONI | COMPATIBILITÀ FIALE | VALUTAZIONE ADR | ALGORITMO NARANJO | ALGORITMO DIPS

INSERIRE I PRINCIPI ATTIVI DESIDERATI

Principio attivo: Aciclovir

Selezionati:

- Gentamicina
- Ampicillina
- Aciclovir

Rimuovi | Rimuovi tutto | Analizza

LEGENDA

Rilevanza clinica

A. (Minore): interazione non rilevante dal punto di vista clinico.
B. (Moderata): interazione associata ad un evento incerto o variabile.
C. (Maggiore): interazione associata ad un evento grave, ma che può essere gestito (es aggiustando la dose).
D. (Controindicata o Molto Grave): interazione associata ad un evento grave per la quale è opportuno evitare la cosomministrazione o instaurare un attento monitoraggio.

Documentazione

ACB Score

Interazioni | ACB Score

GENTAMICINA: le formulazioni di tipo pomata, collirio, crema, ad uso topico o locale e tutte quelle in cui la concentrazione di principio attivo è bassa, presentano un modesto rischio di interazioni se impiegate alle dosi e secondo le indicazioni raccomandate.

Principio Interagente	Rilevanza clinica (Documentazione)	Possibili effetti	Meccanismo	Comportamento clinico	Ulteriori Problematiche	Stampa
Aciclovir	B (2)	Aumento del rischio di nefrotossicità associata alla cosomministrazione di gentamicina e aciclovir per via sistemica.	Effetti nefrotossici additivi e sinergici.	Monitorare i livelli plasmatici di ambedue i farmaci, e aggiustarne il dosaggio; monitorare i segni di tossicità renale.		☑
Ampicillina	A (2)	Inattivazione chimica dell'aminoglicoside.	Complessazione con l'aminoglicoside.	Somministrare separatamente durante la terapia di associazione.		☑

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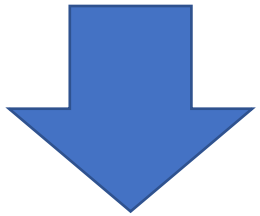
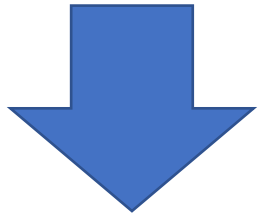
8 SOMMINISTRAZIONI ENDOVENA/DIE + LATTE MATERNO OGNI 3 ORE



RISCHIO DI SOVRACCARICO DI FLUIDI

FABBISOGNO DI LIQUIDI GIORNALIERO: 100 ML/KG



PER TOMMASO: 350 ML

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ACICLOVIR 250 mg ev

Ricostituzione
Il contenuto di ogni falcone deve essere **sciolto in 10 ml di acqua** PPI o fisiologica

Dopo ricostituzione, si può somministrare:
- mediante una pompa a velocità controllata
- o come soluzione ulteriormente diluita con concentrazione <5 mg/mL per fleboclisi.

Dose personalizzata: 20 mg x 3,5 kg = 70 mg

Soluzione da 250 mg/10 mL = 25 mg/mL 25 mg/1 mL = 70 mg/X ml X mL = 70 mg/25 mg * 1 mL

Volume da prelevare della soluzione ricostituita: 2,8 mL

Minimo volume somministrabile: da 14 mL (70 mg/ 5 mg/ mL = 14 mL)

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AMPICILLINA 1g ev

Ricostituzione
Il contenuto di ogni falcone deve essere sciolto in 10 ml acqua PPI e poi diluito in fisiologica.
Non ci sono indicazioni di stabilità chimico-fisica in scheda tecnica

Dose personalizzata: 100 mg x 3,5 kg = 350 mg

Volume da prelevare della soluzione ricostituita: 3,5 ml

Minimo volume somministrabile: non indicato; si porta a 5 ml con fisiologica in pompa siringa in 30’

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GENTAMICINA SOLFATO 80 mg ev

1 flacone contiene 80 mg in 2 ml
La somministrazione endovenosa viene effettuata preferibilmente in infusione **lenta in 1-2 ore**.
Ogni singola dose deve essere diluita in 100-200 ml di fisiologica o glucosata; nei bambini il volume sarà ridotto.
In ogni caso la **concentrazione di gentamicina** dovrà essere **< 1 mg/mL**.

Dose personalizzata: 5 mg x 3,5 kg = 17,5 mg

Volume da prelevare della soluzione ricostituita: 0,45 ml

Minimo volume somministrabile: da 17,5 ml (17,5mg/ 1 mg/ml= 17,5 ml)

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TERAPIA FARMACOLOGICA: criticità

Volume Totale Somministrato: (14 ml x 3) + (5 ml x 4) + 17,5 ml= **79,5 ml**

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- 30.12.2021 h 14.00: Tc 37,8°; ha mangiato bene al seno. Ora nel sonno si apprezza respiro nasale rumoroso, con rientramenti al giugulo. Lieve polipnea. Ingresso d'aria buono SatO2 96% nel sonno FC 160/min
  Colorito più roseo
  Si somministra **paracetamolo** con buon esito

- 30.12.2021 h 23.30: Tc 38°C, bimbo abbastanza tranquillo

- 31.12.2021 h 4.00: dorme vicino alla mamma SatO2 96% nel sonno FC 160/min

- 31.12.2021 h 11.50: attualmente apiretico ma ancora lamentoso alle manovre e ipnoonico e soporoso se non stimolato. Nonostante ciò, mangia con regolarità.
  Persiste modesto colo nasale e lieve bilancia TA senza rumori polmonari aggiunti. SatO2 100% a.a.
  FC 145/min, toni validi, circolo migliorato rispetto a ieri, colorito più roseo, non rash
  Addome trattabile
  Fontanella piena non bombata, occhi chiusi, ipotonico complessivamente se non stimolato. Con la visita piange con vigore e scalcia in modo simmetrico.
  Diuresi abbondante
  Si esegue eco cerebrale: ok

Caso Clinico – Tommaso, età 11 giorni

- 31.12.2021 ore 15.00:
  HSV-1 e 2 DNA su sangue negativi
  Emocromo nella norma PCR 0,7 mg/L, PCT 0,4 μg/L
  Lievemente aumentato il D dimero ma il circolo appare in miglioramento
  Reattività migliorata rispetto al mattino
  Al pannello patogeni respiratori si segnala:
  positività per CORONAVIRUS 229e
  Rota adenovirus: negativi
  PCR batteriche negative e viremie negative su liquor
  Urinocoltura: negativa

INTERRUZIONE, DE-ESCALATION O CONTINUAZIONE?

Caso Clinico – Tommaso, età 11 giorni

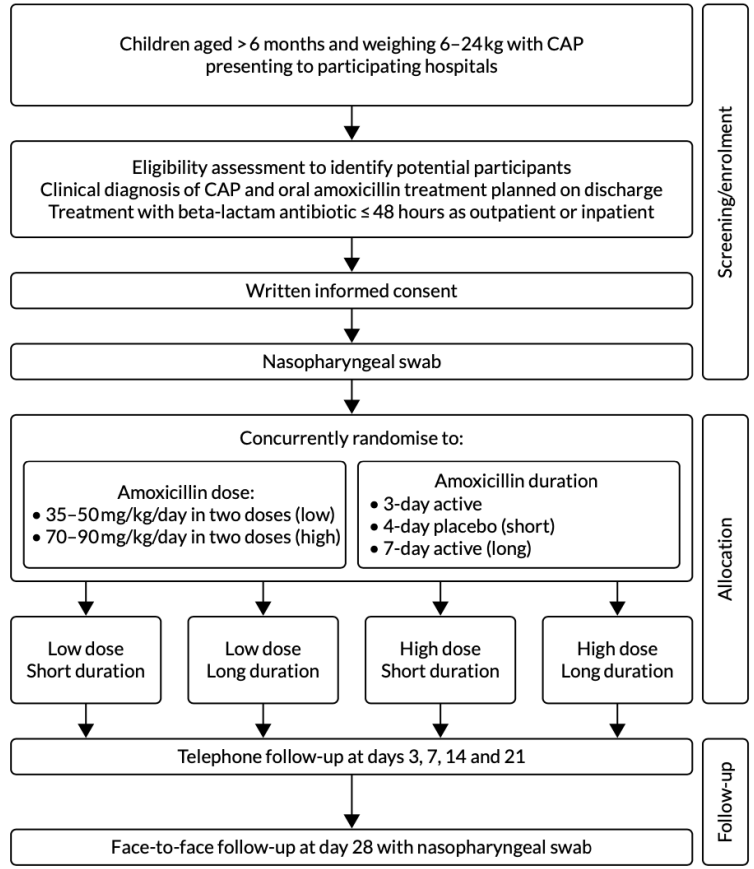
DURATA DELLA TERAPIA

NIHR | National Institute for Health Research

Health Technology Assessment
Volume 25 • Issue 60 • November 2021
ISSN 1366-5278

Amoxicillin duration and dose for community-acquired pneumonia in children: the CAP-IT factorial non-inferiority RCT

Sam Barratt, Julia A Bielicki, David Dunn, Saul N Faust, Adam Finn, Lynda Harper, Pauline Jackson, Mark D Lyttle, Colin VE Powell, Louise Rogers, Damian Roland, Wolfgang Stöhr, Kate Sturgeon, Elia Vitale, Mandy Wan, Diana M Gibb and Mike Sharland on behalf of the CAP-IT Trial Team and the PERUKI and GAPRUKI Networks



Conclusions: Antibiotic retreatment, adverse events and nasopharyngeal colonisation by penicillin-non-susceptible pneumococci were similar with the higher and lower amoxicillin doses and the 3- and 7-day treatments. Time to resolution of cough and sleep disturbance was slightly longer in children taking 3 days' amoxicillin, but time to resolution of all other symptoms was similar in both arms.

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DURATA DELLA TERAPIA

European Journal of Pediatrics (2022) 181:3795–3804
https://doi.org/10.1007/s00431-022-04603-8

REVIEW

Shorter versus longer duration of Amoxicillin-based treatment for pediatric patients with community-acquired pneumonia: a systematic review and meta-analysis

Isabela R. Marques[1] · Izabela P. Calvi[2] · Sara A. Cruz[2] · Luana M. F. Sanchez[3] · Isis F. Baroni[4] · Christi Oommen[5] · Eduardo M. H. Padrao[5] · Paula C. Mari[6]

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Abstract

Streptococcus pneumoniae is the most common typical bacterial cause of pneumonia among children. The World Health Organization (WHO) recommends a 5-day Amoxicillin-based empiric treatment. However, longer treatments are frequently used. This study aimed to compare shorter and longer Amoxicillin regimens for children with uncomplicated community-acquired pneumonia (CAP). A search of PubMed, EMBASE, and Cochrane Central was conducted to identify randomized controlled trials (RCTs) comparing 5-day and 10-day courses of Amoxicillin for the treatment of CAP in children older than 6 months in an outpatient setting. Studies involving overlapping populations, lower-than-standard antibiotic doses, and hospitalized patients were excluded. The outcome of interest was clinical cure. Statistical analysis was performed using RevMan 5.4. Heterogeneity was assessed using the Cochran Q test and I^2 statistics. Two independent authors conducted the critical appraisal of the included studies according to the RoB-2 tool for assessing the risk of bias in randomized trials, and disagreements were resolved by consensus. We used the GRADE (Grading of Recommendations, Assessment, Development and Evaluation) tool to evaluate the certainty of evidence of our results. Three RCTs and 789 children aged from 6 months to 10 years were included, of whom 385 (48.8%) underwent a 5-day regimen. Amoxicillin-based therapy was used in 774 (98%) patients. No differences were found between 5-day and 10-day therapy regarding clinical cure (RR 1.01; 95% *CI* 0.98–1.05; $p = 0.49$; $I^2 = 0\%$). Subgroup analysis of children aged 6–71 months showed no difference in the rates of the same outcome (RR 1.01; 95% *CI* 0.98–1.05; $p = 0.38$; $I^2 = 0\%$). The GRADE tool suggested moderate certainty of evidence.

Conclusion: These findings suggest that a short course of Amoxicillin (5 days) is just as effective as a longer course (10 days) for uncomplicated CAP in children under 10 years old. Nevertheless, generalizations should be made with caution considering the socioeconomic settings of the studies included.

Caso Clinico – Tommaso, età 11 giorni

DE-ESCALATION: definita, sulla base dei risultati microbiologici, come **passaggio da una terapia antibiotica empirica a largo spettro ad una a spettro più ristretto, o la riduzione del numero degli antibiotici**

- 01.01.2022 ore 11.00:
  sfebbrato, non più irritabile, alimentazione regolare al seno.
  EO: buone condizioni generali, vigile e reattivo. Buon circolo. Obiettività cardiaca, toracica e addominale nella norma.

Programma:
continuare terapia in atto?

- In corso:
  emocoltura

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American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

KAS 7a: Should discontinue parenteral antimicrobial agents and discharge hospitalized patients when all of the following criteria are met: (1) culture results are negative for 24–36 h or only positive for contaminants; (2) the infant continues to appear clinically well or is improving (eg, fever, feeding); (3) tare no other reasons for hospitalization.

Grade: B; Strong Recommendation

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- 02.01.2022 ore 10.30
  Tampone positivo per coronavirus 229E

  NEGATIVI: urocoltura, coprocoltura, HSV DNA1-2 su sangue e liquor, diagnostica molecolare batterica su sangue.

  Apiretico dal 31.12.2022. Buona reattività. Si alimenta bene al seno. PC 3840. Alvo e diuresi ndp.

Caso Clinico – Tommaso, età 11 giorni

ORIGINAL ARTICLE

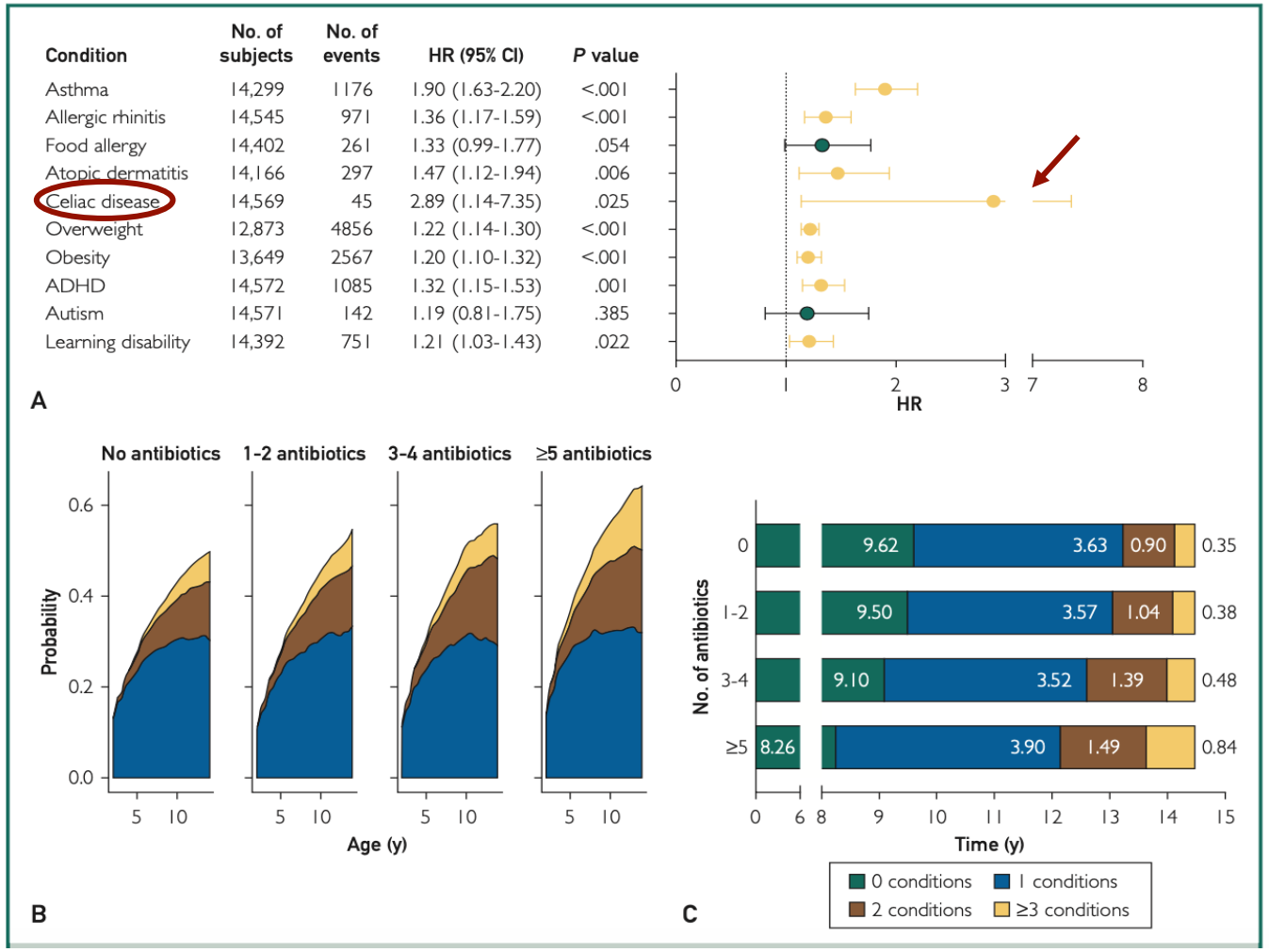
MAYO CLINIC

Check for updates

Association of Infant Antibiotic Exposure With Childhood Health Outcomes

Zaira Aversa, MD, PhD; Elizabeth J. Atkinson, MS; Marissa J. Schafer, PhD; Regan N. Theiler, MD, PhD; Walter A. Rocca, MD; Martin J. Blaser, MD; and Nathan K. LeBrasseur, PhD

ASSOCIATIONS BETWEEN ANTIBIOTIC EXPOSURE IN THE FIRST 2 YEARS OF LIFE AND THE RISK OF SEVERAL COMMON HEALTH CONDITIONS WITH CHILDHOOD ONSET



B. Cumulative probability of developing 1, 2, and 3 or more health conditions in children unexposed or exposed to antibiotics stratified by number of prescriptions.

C. Number of years spent with 0, 1, 2, or 3 or more health conditions during the first 14.5 years of life stratified by number of prescriptions.

Caso Clinico – Tommaso, età 11 giorni

Antibiotic Exposure and IBD Development Among Children: A Population-Based Cohort Study

WHAT'S KNOWN ON THIS SUBJECT: Inflammatory bowel disease pathogenesis is incompletely understood. Previous pediatric studies suggested associations between antibiotic use and inflammatory bowel disease development but were limited by recall bias, lack of controls, incomplete antibiotic capture, or included exposures between symptom onset and diagnosis.

WHAT THIS STUDY ADDS: Our population-based cohort study suggests that certain childhood antibiotic exposures are associated with an increased risk of developing inflammatory bowel disease. Our findings have implications for understanding the condition's pathogenesis and provide additional stimulus for reducing unnecessary childhood antibiotic use.

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KEY WORDS
antimicrobials, epidemiology, inflammatory bowel disease, pediatric, population-based studies

ABBREVIATIONS
aHR—adjusted hazard ratio
CI—confidence interval

TABLE 5 Summary of Adjusted Multivariate Associations Between Antibiotic Exposure and IBD Development According to Antibiotic Class and Exposure Measurea

Exposure Measure	Broad Penicillins		Fluoroquinolones		Tetracyclines	
	HR (95% CI)	*P*	HR (95% CI)	*P*	HR (95% CI)	*P*
Any exposure[b]	1.72 (1.32–2.24)	*P* < .001	3.70 (2.25–6.08)	*P* < .001	1.05 (0.65–1.69)	*P* = .85
Per course	1.06 (1.02–1.11)	*P* = .006	1.07 (0.99–1.16)	*P* = .064	0.97 (0.82–1.16)	*P* = .78
No. of courses[b]						
0	1 (Reference)	—	1 (Reference)	—	1 (Reference)	—
1–2	1.66 (1.26–2.19)	*P* < .001	3.71 (2.22–6.19)	*P* < .001	1.02 (0.58–1.78)	*P* = .95
>2	2.42 (1.13–5.18)	*P* = .023	3.57 (0.50–25.53)	*P* = .20	1.13 (0.47–2.75)	*P* = .78
Per week	1.02 (0.99–1.04)	*P* = .061	1.01 (0.98–1.05)	*P* = .51	1.00 (0.98–1.02)	*P* = .91
No. of weeks[b]						
0	1 (Reference)	—	1 (Reference)	—	1 (Reference)	—
1–2	1.62 (1.22–2.15)	*P* = .001	3.81 (2.24–6.48)	*P* < .001	0.75 (0.24–2.33)	*P* = .61
>2	2.52 (1.37–4.62)	*P* = .003	3.07 (0.76–12.36)	*P* = .11	1.14 (0.68–1.93)	*P* = .62

Exposure Measure	Metronidazole	
	HR (95% CI)	*P*
Any exposure[c]	337.78 (37.42–3048.96)	*P* < .001
Per course	1.15 (1.07–1.22)	*P* < .001
No. of courses[c]		
0	1 (Reference)	—
1–2	50.84 (12.71–203.39)	*P* < .001
>2	35.82 (0.02–60450.42)	*P* = .35
Per week	1.04 (1.02–1.07)	*P* < .001
No. of weeks[c]		
0	1 (Reference)	—
1–2	57.25 (13.79–237.67)	*P* < .001
>2	14.51 (0.14–1530.87)	*P* = .26

Antibiotic use and inflammatory bowel diseases in childhood

Anders Hviid, Henrik Svanström, Morten Frisch

Table 2 Rate ratios of inflammatory bowel diseases according to antibiotic use among Danish children born 1995—2003 followed from birth until January 2005

	Inflammatory bowel diseases			Crohn's disease			Ulcerative colitis		
	Number of cases	RR*	95% CI	Number of cases	RR*	95% CI	Number of cases	RR*	95% CI
Antibiotic use									
No courses	33	1	Reference	11	1	Reference	22	1	Reference
At least 1 course	84	1.84	(1.08 to 3.15)	39	3.41	(1.45 to 8.02)	45	1.21	(0.61 to 2.3
Use in last 3 months	26	2.39	(1.36 to 4.19)	14	4.43	(1.88 to 10.44)	12	1.49	(0.69 to 3.1
Use >3 months previously	58	1.42	(0.79 to 2.53)	25	2.27	(0.88 to 5.84)	33	1.04	(0.50 to 2.1
Number of courses									
1—2	32	1.63	(0.92 to 2.91)	14	2.94	(1.18 to 7.31)	18	1.11	(0.54 to 2.3
3—4	21	2.07	(1.03 to 4.18)	11	5.12	(1.69 to 15.53)	10	1.12	(0.45 to 2.8
5—6	15	2.76	(1.27 to 5.97)	6	5.30	(1.49 to 18.87)	9	1.86	(0.71 to 4.8
7+	16	2.93	(1.34 to 6.40)	8	7.32	(2.14 to 24.99)	8	1.59	(0.57 to 4.3
Increase in RR per course		1.12	(1.04 to 1.21)		1.18	(1.06 to 1.32)		1.08	(0.97 to 1.1

*Adjusted for age and calendar period.

GRAZIE PER L'ATTENZIONE