Neumonia complicada pediatria pdf 2020

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male, 2,160 grams, presented respiratory difficulties at birth requiring resuscitation with positive pressure through the endotrachal tube for one minute before restoring regular breathing. He developed hyaline membrane disease (DMH), which required 53 hours of oxygen therapy. On the 6th day of life, NB developed with an important drop in the general condition accompanied by cellulite in the frontal area caused by Staphylococcus aureus in accordance with the culture of lesions and blood culture, the infection was treated with antibiotic therapy for 10 days. After discontinuing the antibiotic, NB initiated feverish peaks, and on the 24th day of life a chest X-ray was performed, which showed changes compatible with pneumonia and pulmonary abscesses (digits 1 A and 1 B). After antibiotic therapy for 21 days, NB developed with clinical improvement, with progressive regression of radiological results (Figure 3). NB progresses satisfactorily, discharged from the hospital in 44 days of life, 2990 g and breastfeeding. Case images: Figure 1 - Chest X-ray, revealing the consolidation area in the left upper lobe associated with the radio-impact image, node configuration. Another radio-impact image of the node configuration and dense halo is visualized in the lower left lobe. On the radiography, made with horizontal rays, the node images represent hydroaer levels compatible with pulmonary abscesses. Under the left diaphragmatic hemid there is an elongated gastric blister (frequent detection in newborns). Figure 3 - Radiography, performed on the 36th day of life, demonstrated the preservation of the abscess only in the left upper lobe. Discussion: Staphylococcus aureus is one of the most common etiological agents of neonatal pneumonia. The infection can be acquired in utero, during the passage in the birth canal or immediately after birth. In the latter case, it is possible to acquire the disease by direct vaccination through the airways or hematogenic whether. The origin of the infection can be derived by the time from childbirth to diagnosis. Early pneumonia appears between 3 and 7 days of life and infection between ure or during childbirth, while late pneumonia occurs between 4 and 28 days of life and suggests a postpartum infection. The clinical picture of staphylococcal pneumonia is non-specific and includes respiratory dysfunction of varying degrees, aquiepne, fever and gastrointestinal disorders. Some special conditions, such as hyalin membrane disease, can worsen the evolution of pneumonia in NRs. In general, neonatal pneumonia usually occurs with stretched alveolos and full of pingable exudates, causing an increase in lung volume. The radiological aspect of neonatal pneumonia tends to vary, and at the initial stage the examination may be normal or present with easy penetration. However, staphylococcus pneumonia often progresses to radiological changes characterized by broken/multi-bar consolidation, empyema, pleural effusion and pneumoatocele. Pleural effusion and pneumatic cellulose are very common complications in staphylococcal pneumonia in NB (75% and 85% of cases, respectively). Lung abscess is a less frequent complication. Abscess is formed by the necrosis of parenchem and lobar consolidation rupture, which develop as cavity lesions with liquid content. They appear on chest x-rays as radio-loving images with thick walls of radio protection. The most common localization is the upper segments of the lower lobes and the posterior segments of the upper lobes, an important differential diagnosis of lung abscess is pneumatocele, which is formed by partial obstruction of the airways intraluminal exsutado or peribroncial abscess, which causes the retention of alveolar air and the formation of cysts with gas content. The main radiological feature of the pneumatocele is the presence of thin walls (1 mm). They can be several, with different sizes. Differential radiological diagnosis can be difficult. In general, pneumatocelyde have thin walls and clearly defined edges. On the other hand, abscesses have thicker walls, and the periphery is less defined due to the peripheral zone of inflammation. However, the older and more processed the abscess, the thinner and better defined its walls become. In addition, the level of air in the air can be present in both abscess and pneumatocele, but is more common in abscesses, as most noninizumatocelus have only air inside. Source: CAISM/UNICAMP Image Collection Photograph: Neder Piagentini-do Prado: ASTEC/CAISM/UNICAMP. Haney's bibliographic references, PJ; Bogulman, M;; Sun, CC. Radiographic results for neonatal pneumonia. AJR Am J X Roentsol. 1984 July. 143(1): 23-6. Glatstein, M; Skolnick, D; Benzira, L; Domani, K.A.; Shah, M; S. Lung abscess due to non-tuberculous, non-Mycobacterium randomness in neonate† of pediatric pulmonology. 2012 Oct; 47(10): 1034–1037. Lucaya, J; Wrestling, JL. Infant chest visualization: chest imaging in infants and children, 2nd turn ed. Springer- Verlag Berling, Heidelberg. 2008. Nissen, MD. Congenital and neonatal pneumonia. Respir Rev. 2007 Sep Pediatrics; 8(3):195- 203. Ranganatan, SC; Sonnappa, S. Pneumonia and other respiratory infections. Pediatr Wedge North Am February 2009; 56(1): 135-56. Svichuk LE. Diagn'stico por imagens em neonatologia e pediatria. 3 ed. Revinter, 1991. The goal is to provide advanced information for the management of community pneumonia in children under 5 years of age, based on the latest data published in the literature. The source of the dataA comprehensive search was conducted in PubMed, using expressions: the community has acquired pneumonia and baby and etiology OR diagnosis OR severity OR antibiotic. All of the extracted articles had a title and abstract reading when documents, reporting the latest data on each subject, were identified and uploaded for full reading. Synthesis dataIn an era of largely implemented bacterial conjugated vaccines and the widespread use of methods to increase nucleic acid, respiratory viruses have been identified as the most frequent causal agents of community pneumonia in patients under 5 years of age. Hypoxemia (oxygen saturation ≤ 96%) and increased breathing work are the hallmarks most associated with community pneumonia. The wheezes detected during the physical examination independently predict a viral infection and negative predictive value (95% confidence interval) of normal chest X-rays and serum procalcitonin of the serum of zlt; 0.25 ng/dL was 92% (77-98%) and 93% (90-99%), respectively. Inability to drink/feed, vomiting everything, cramps, lower chest indrawing, central cyanosis, lethargy, nasal burning, grunt, nodding head, and oxygen saturation is 90% predictors of death and can be used as indicators for hospitalization. Ambulatory treatments, while ampicillin, aquicillin G, or amoxicillin (initiated initially by intravenous route) are the first line of options for treating inpatients.jetivoFornecer informa'es de ponta para o manejo de crian'as menores de cinco anos com pneumonia adquirida naunidade, com base nas evid'ncias mais recentes publicadas na literatura. Fonte de DadosUma pesquis abrangente foi feita no PubMed, com as expresses: community pneumonia - child - etiology diagnostics diagnostics heaviness or antibiotic. All the articles found had a title and abstract reading, and the articles that reported the most recent evidence on each subject were identified and extracted for full reading. Synthesis of dataIn the era of widely used conjugated bacterial vaccines and the widespread use of nucleic acid enhancement techniques, respiratory viruses have been identified as the most common causal agents of community pneumonia in patients under five years of age. Hypoxemia (oxygen saturation ≤ 96%) and increased breathing efforts are the hallmarks, most of the link to pneumonia acquired by the community. The wheezes detected during the physical examination independently predict a viral infection and a negative predictive value (95% of the confidence interval) and the negative predictive value (95%). normal chest x-rays and zlt; procalcitonin zlt; 0.25 ng/dL was 92% (77-98%) and 93% (90-99%), respectively. Inability to drink and feed, vomiting all food, convulsions, subverted breast rollover, central cytosis, lethargy, nasal flap, stridor and oxygen saturation are predictors of death and can be used as indicators of hospitalization. Oral amoxicillin is a first-line option for the treatment of outpatients, and ampicillin or crystalline penicillin G or amoxicillin (originally administered intravenously) are the first-line options for treating hospitalized patients. The community-acquired pneumonia, acquired by the community, continues to be the leading cause of death for children under five worldwide, and an estimated 921,000 people died in 2015. , CAP loses only complications of preterm birth, is the leading cause of death in countries with high mortality rates of children under five years of age, is an important cause also in countries with high and average infant mortality.1 In addition, CAP places a significant burden on health services and is one of the main causes of referral and hospitalization. According to the latest estimates, 265,000 people died in hospitals from CAP in 2010, 99% of them in developing countries.2 Thus, 81% of deaths occurred outside hospitals,2, especially in sub-Saharan Africa and southern Asia.1 In Brazil in 2017, 1,117,779 hospitalizations occurred in children under five years of age, the most common cause of respiratory diseases when hospitalized (351,763; 31.5%), (277,212; 23.5%) Infectious/parasitic diseases (163,958; 14.7%).3 In terms of mortality, in 2017, 2,349 deaths from respiratory diseases in Brazil were reported in the same age group, i.e. 0.7% of hospitalized persons died (mortality rate).3 These figures correspond to mortality and morbidity in accordance with the economic development of countries1, Given that Brazil is a high-middle-income country.4 That is, although CAP is not a common cause of death, it is one of the main causes of hospitalization in Brazil. Due to its impact on child morbidity and mortality, it is the primary goal in health care to be updated in the diagnosis and treatment of children with CAP. based on recent evidence published in the literature. EtiologyIn the 1990s bacterial infections were a major problem of CAP etiology, especially pneumococcal infection. In addition to being a classic concept in medicine, derived from available bacteriological analyses that are commonly used to study CAP etiology, This concept was underlined by the conclusion that death from CAP was mainly due to bacterial infection.5 Based on this finding, the World Health Organization (WHO) launched a program with guidelines to identify children at risk of CAP and who should receive empirical antibiotic treatment quickly.6 In fact, this program was quickly considered to have a significant impact on infant mortality.7Th-century end of the last century and the beginning of the current scenario. First, the gradual deployment of conjugated bacterial vaccines, in particular hemophilic vaccine type B (Hib) and pneumococcal conjugation vaccines (PCV), 8 of the most common bacterial CAP agents in the five-year age group to date.9 that the widespread use of the hib and PCV vaccine in countries with high infant mortality has been associated with a reduction in Hib and pneumococcal disease and mortality.8 Second, the successful spread of polymerase chain reaction (PCR) methods has an impact on the estimated proportion of respiratory viral infections in CAP.1 infants.1 In a U.S. study, 2,219 children were hospitalized for CAP, between 2010 and 2012, respiratory viruses were detected in 1,627 (73.3%), of which 1,472 (90.5%) were detected. only viruses were detected.11 In a Swedish study conducted in the pediatric emergency room or inpatient wards between 2011 and 2014, 121 cases with radiological evidence of CAP and 240 healthy controls, of which 81% and 56%, respectively, had viruses; the authors reported that the influenza virus, the human metapneuro virus (HMPV) and the respiratory synthial virus (RSV) were detected in 60% of cases and were significantly associated with CAP, with a coefficient of 10.12 In the Australian study, 230 children were hospitalized with CAP and 230 healthy controls between 2015 and 2017, respiratory viruses, respiratory viruses, respiratory viruses, respiratory viruses, respiratory viruses, respiratory viruses, in particular Vsr and HMPV were the main participants in the etiology CAP.13 Authors counted that VSR viruses, HMPV, influenza, adenovirus and mycoplasma pneumonia were responsible for 20.2% (CI95%: 14 from 0.6 to 25.5), 9.8% (5.6% to 13.7%), 6.2% (2.5% to 9.7%), 4% (1.1% to 7.1%) and 7.2% (3.5% to 10.8%) on the other hand, in a multicenter (Gabriel) study conducted in eight developing countries (Cambodia, China, Haiti, India, Madagascar, Mali, Mongolia and Paraguay), between 2010 and 2014, 888 patients were hospitalized by radio and 870 healthy control elements were recruited; at least one microorganism was detected in 93% of cases and in 74.4% control. Streptococcal pneumonia, M. pneumonia, HMPV, rhinovirus, RSV, influenza viruses 1, 3 and 4, as well as influenza A and B viruses were independently associated with pneumonia, and the authors suggested that increased vaccination coverage against S. pneumoniae could significantly reduce the CAP burden in children from developing countries.14 In addition, in another multicenter study (Percha) conducted in Bangladesh, Gambia, Kenya, Mali, Thailand, And zambia , in all developing countries, between 2011 and 2014, there were 1,769 non-HIV-positive cases of chest-positive, hospitalized with severe injuries, between the ages of one and 59 months and 5,119 cases of community control; detection of RSV, influenza virus, HMPV, influenza virus, S. pneumoniae, Hib, influenza no type b and Pneumocystis jirovecii in samples of nosofare and oropharynghety was associated with the status of the case. Etiological analysis showed that viruses accounted for 61.4% (95% confidence interval (95%: 57.3-65.6) of causes, while bacteria accounted for 27.3% (23.3-31.6) and mycobacteria tuberculosis by 5.9% (3.9-8.3). RSV presented the highest etiological fraction (31.1%, 95% CI: 28.4'34.2) of all pathogens.15B Brazil, two studies carefully examined cap etiology. In the first case, 184 cases of radio-confirmed CAP were reported, infections were detected only by viruses, only by bacteria or infections of viruses and bacteria in 67 (36%), 34 (18%) and 34 (18%). and 43 (23%) patients, respectively, the most common pathogens were (21%) and S. pneumoniae (21%).16 Viral infections were diagnosed with influenza 1, 2 and 3 (17%), RSV (15%), influenza A and B (9%), human bocavirus (HBoV) (8%), enterovirus (5%), HMPV (4.1%) and adenovirus (3%).16-18 In the second study, 774 unpitilalized cases were collected, of which 708 (91.5%) were collected. viruses were detected, 491 (69.4%) With multiple viruses rhinovirus infections (46.1%), adenovirus (38.4%), enterovirus (26.5%), RSV (24.9%), parainfluenza viruses 1, 2, 3 and 4 (20.5%), HMPV (12.9%), influenza A and B (8.5%) and coronavirus OC43, NL63 and 229E (8.3%) 19 In this study, all viruses were significantly more common in cases with multiple detections, except for RSV and influenza viruses.19 In addition, acute HBoV infection was serologically confirmed in 38 (5.0%) Of the 759 cases with consistent serum samples available.20 Typical bacterial infections were also investigated, with quantitative evaluation of specific IIG titers: of the 690 patients with paired serum samples available for these tests, the rate of antibody responses was 15.4% of at least one pneumococcal antigen protein, 5.8% for H. influenza and 2.3% for Marth. The rate of antibody detection was significantly increased for at least one of these three bacteria to 20.4%.21 Atypical bacterial infections were also investigated: an acute infection of M. pneumoniae was diagnosed by detecting specific specific infections Ig Antibodies in convalescent serum samples, acute chlamydia pneumonia infections and chlamydia trachomatis have been diagnosed by detecting Ig antibodies specific MMM or significant changes in hot flashes IgG or IgA; acute pneumonia infections (86/787; 10.9%), C. pneumonia (79/733; 10.8%) and C. trachomatis (3/28; 10.7%) and 147 (20.1%), 731 patients studied for these three bacteria had acute infections, at least one of these three bacteria (18 patients had concomitant positive tests for acute infection M. pneumonia and C. pneumoniae).22 Based on the aforementioned data, it can be noted that respiratory viruses are increasingly involved in the etiology of CAP childhood in, along with acknowledging that viral infections were more frequent than bacterial infections, even in developing countries. WHO respiratory systems were selected from field observations in targeted epidemiological scenarios because of their high sensitivity, reasonable specificity and ease of implantation, during which access to official medical assessment was limited. In addition, the evidence for establishing these criteria is that prior to the introduction of Hib and S. pneumoniae vaccines, considered the two leading causes of death in CAP.23, it should also be emphasized that the criteria for respiratory frequency are not a diagnostic approach; instead, it was recommended that they be used as a simple tool to identify children under five years of age with complaints of acute respiratory infection who have the opportunity to present lower respiratory tract involvement and may then pose a risk of death. A recently published systematic review of symptom accuracy and medical examination results to identify cases of radiographic pneumonia in children under five years of age included 23 prospective cohort studies in children (eight from North America), of which the prevalence of radiographic pneumonia in North American studies was 19% and 37% outside North America. The presence of moderate hypoxemia (oxygen saturation ≤ 96%) and increased breathing efforts (grunting, opening new and refutations) were the signs most associated with pneumonia, while normal oxygenation (oxygen saturation of the zgt; 96%) reduced likelihood of pneumonia. Interestingly, the accopid (40 breaths/min) was not strongly associated with the diagnosis of pneumonia.24 In fact, Respiratory-based pneumonia diagnosis restrictions also include diagnosis of asthma and other respiratory diseases affecting the lower respiratory tract.25 A study conducted in three rural hospitals in Rwanda between May 2011 and April 2012 analysed 147 cases and 58% had pneumonia diagnosed by a radiologist; 31 historical signs, clinical and laboratory symptoms had accuracy for the diagnosis of radio logically confirmed pneumonia: oxygen saturation was the best clinical predictor, its area according to the ROC curve (0.675 (95% KI: 0.581-0.769); p 0.001) was higher than that of the airways (0.528 (95% KI: 0.428-0.627); p 0.588.26 In Malawi, between 2012 and 2014, 13,266 children between the ages of 2 and 59 months with clinically diagnosed pneumonia were assessed, and the authors showed that oxymetry increased the count level for severely hypoxemic children without breast rollover or signs of danger27; Excluded, retrospective application of guidelines published by WHO in 201428 did not identify a significant proportion of severely hypoxemical children eligible only through oximetry.27 It has also been demonstrated that the pulse of oxymetry not only significantly increases the incidence of severe cases treated correctly, but also reduces the incidence of improper antibiotic treatment.29Genos gold standard is commonly considered in the study of predictive signs of pneumonia. Radiological findings corresponding to pneumonia include pulmonary, alveolar or interstitial infiltration; alveolar infiltration is characterized as dense opacity that takes up a portion or entire lobe or entire lung, may or may not contain an air bronchogram defined as linear and irregular density with a laced aspect.30 Interestingly, sensitivity (95% CI) has been demonstrated. On the other hand, negative predictive value (95% OF KI) of total chest X-rays was 92% (77%-98%).31 These findings were found in hospitalized children31 and not hospitalized.32 This means, means, that radio results of logically confirmed pneumonia are actually predictors of bacterial pneumonia. The accuracy of these predictors can change over time and between one environment and another depends on the coverage of vaccines. From a practical point of view, bacterial pneumonia should be targeted, as children with typical bacterial infections isolated or complicated by a viral infection have worse outcomes than children infected with an isolated virus.11 In a prospective cross-sectional study that examined etiology of 11 viruses and eight bacteria in patients hospitalized with CAP before the age of five years, the frequency of symptoms and symptoms was assessed in patients with a virus infection. 188 patients had probable etiology established as virus-only infection (51.6%), mixed viral-bacterial (30.9%) and a virus-only infection .6 percent. and only bacterial (17.5%). Asthma was reported in 21.4%. Using multivariate viral infection analysis (ORAj (95% KI: 9.6; CI95%: 2.7'34.0), asthma (ORaj (95% CI:4.6; CI95%:1.9-11.0) and age (ORaj (CI95%: 0.95; CI95%:0.92-0.97) were independently associated with physical wheeze. The positive predictive value of wheezing detected in a viral infection was 96.3% (95% KI: 90.4-99.1%). From a practical point of view, it is necessary not only to identify children with CAP, but mainly to patients with probable bacterial infection, and it is possible that a combination of simple chest X-rays, wheezing detection on physical examination and pulse oxymetry may be useful, together, for this purpose. This is a potential issue for future research. The use of inflammatory biomarkers in the blood to distinguish the bacterial cover from the viral lid has been investigated. Procaltonin (RST) and Syractive Protein (CRP) have shown some value in detecting bacterial infections,34.35, but the appropriate clinical cut-off point has not yet been established for its use.36 For example, in an Italian randomized clinical trial, children with non-severe CAP were hospitalized specifically for participation in this PCT study: 155 received antibiotics if the average number of PCT boomofs in hospitalization was ≥ 0.25 ng/ml, and the remaining 155 children received antibiotics on the basis of a clinical evaluation of a physician; 133 people (85.8%) group 155 children (100%) antibiotics, respectively (r lt; 0.05). The duration of antibiotic use was shorter (5.37 vs. 10.96; p.05; p.05), as well as the incidence of side effects associated with antibiotic use (3.9% vs. 10.96%; p qlt; 0.05) in the group that had septic PCT measured. It should be stressed that none of the patients who have not received antibiotics are presented with worsening or necessary antibiotics later.37 The Brazilian study described, that seeric PCT in hospitalization below 0.25 ng/ dL represented a high negative prognostic value of pneumococcal infection (93%; 95% CI: 90-99%38 It is important to emphasize that in both studies, the individuals included had radiology confirmed pneumonia and, for this reason, even with chest X-rays, which confirmed the diagnosis of CAP, it seems it is possible to identify those children who do not benefit from the use of antibiotics, for example, taking into account the serum level of PCT zlt; 0.25 ng/ml. In addition, IL-6 has been independently associated with pneumococcal infection, with a high negative predictive value in children under five years of age hospitalized with CAP.39 To date there is a shortage of this information in children not hospitalized at the same age. , a combination of biomarkers (apoptosis-inducing ligants associated with tumor necrosis factor, C-reactive protein, and interferon-induced protein μ) has been described as helpful in distinguishing between bacterial and viral infections in hospitalized children; however, fewer than 200 children were studied together in two studies.40.41 One common in this type of research is how children without bacterial CAP are identified. For example, In a recently published study in Australia, the final bacterial definition included clinical emphyemes and/or bacteria found in the blood or pleural effusion, and suspected viral pneumonia included at least one virus found in a nasal nasal smear with no criteria for final bacterial pneumonia.42 In fact, with these definitions, the authors grouped cases in two subgroups: the first with an invasive bacterial infection. A big problem in grouping CAP cases with a bacterial infection is the diagnosis of a non-invasive bacterial infection.43 When the methods used do not diagnose a non-invasive bacterial infection, these patients are mistakenly identified as cases without bacterial infection. Undoubtedly, identifying and testing tools for safe discrimination in children with CAP those with a viral infection from those with bacterial infection is a priority in CAP research in childhood. HospitalizationClinyment department requires evaluation to determine whether or not the patient should be treated in the hospital. In reviewing seven guidelines from countries other than those representing MSPs as children, it was noted that the recommended hospitalization criteria varied between developed countries and countries where development was observed.44 In the United States, Canada, the United Kingdom and Japan, signs of respiratory distress, including aquipnea, are indicators of hospitalization, while in Brazil, aquipnea is considered an indicator for the start of antibiotics on an outpatient basis.44 In 2012, which made significant changes in its guidance: patients with awaiting breast rebuttal, which are used to obtain official hospitalization recommendations. Since 2012, oral antibiotics have started to be listed for outpatient antibiotics.45M the number of developed countries prior to the introduction of PCV is estimated at approximately 2.6 million episodes of CAP, including 1.5 million (58%) Children who were hospitalized each year for the disease, in children of 5 years, 5 years.46 On the contrary, the estimates for developing countries amounted to 151 million new episodes per year, 9% of which were associated with hospitalization.47 It can be noted that the proportion of CASES CAP associated with hospitalization was 6.4 times higher in children from developed countries (58%) The difference in the proportion of cases hospitalized in developed and developing countries probably reflects a combination of differences in the number of cases hospitalized in developed and developing countries. health care and differences in parental behaviour, And no less severe disease in children from developing countries.44 In addition, the structure of the health system differs between developed and developing countries.44 In fact, no study published in developed countries has systematically compared the outcomes of outpatient treatment to hospitalized patients for different degrees of respiratory distress.48 Current recommendations from developed countries are based on the assumption that children have reasonable access to medical care, including a physician. The general assessment of the attending physician on the clinical status of the child and the expected clinical course is used to determine the need for hospitalization.48.49DS of the four developing countries participating in Gabriel's study showed that out of 405 cases between the ages of two and 60 months hospitalized with radio-logically confirmed pneumonia, 13 (3.2%) and 13 (3.2%) of those admitted to the hospital. Died; hypoxemia and detection of S. pneumoniae PCR in the blood were predictors of death, while lower thoracic rebuttal and cyanosis were predictable hypoxemia; In addition, HMPV and RSV were independently associated with an increased risk of hypoxemia.50 In addition, data from 1,802 children between the ages of one and 59 months were hospitalized with severe or very severe pneumonia and included in the perch study, Seven low- and middle-income countries between 2011 and 2014 demonstrated that the age of 1 year of a woman ≥ three days of illness prior to presentation in hospital, low weight for growth, lack of reaction, deep breathing, hypoxemia, grunt and lack of cough were predictors of death; they also indicated that the probability of death increased depending on the number of signs of danger present by WHO: no signs of danger (1.5%), a sign of danger (10%) and a risk.5 per cent who were present. and ≥ 2 signs of danger (33%).51 the number of signs of danger who had at the presentation at the hospital (with No.82) was more accurate than the estimate of perch layer number 5 (from 0.76) or the index of severity of breathing in children (with 0.76).51 Signs of the danger of central cynosis or oxygenation of the zlt; 90% in pulse oxymetry, inability to drink/feed, vomiting of all food, convulsions, convulsions, convulsions, convulsions, convulsions, lethargy (or impaired consciousness) and severe respiratory distress.51 Severe respiratory distress has been identified as opening burrows, grunts or nods (using auxiliary muscles to breathe) in the presence of very difficult, fast or breathless breathing, the child is unable to feed due to respiratory distress and the fact that it is easily tired.52 In the sum. vomiting of all food, convulsions, a refutation of the lower chest, central cynosis, lethargy, opening nostoin, grunts, nods have been recognized as reliable and easily detectable predictors of death in children hospitalized with CAP, as well as 90% of the oxygen saturation (hypoxemia). While these findings were based on hospital treatment cases and therefore it is impossible to conclude which cases could be successfully treated at home, it can be recognized that these were evidence-based predictors and therefore can be used in clinical management of CAP cases in various contexts, in particular assistance in deciding which patients should be hospitalized for treatment. Another study, conducted in four U.S. hospitals in 2010, recruited 406 children (lt; 18 years old) hospitalized with clinical and radiographic data on pneumonia to assess whether radiographic outcomes were predicted; radiographers at hospitalization were classified as single-bladed lung penetration, unilateral or bilateral multi-bar or interstitial infiltration of the lungs, as well as the absence of pleural effusion, small or moderate/large. The authors reported that the findings of moderate/large pleural effusions and bilateral multi-bar infiltrations showed that the strongest associations with severe diseases and unilateral or bilateral and interstitial multi-malarial infiltrations were associated with the need for intensive care.53 Thus, chest x-rays are a valuable tool that contributes to improving the quality of care and can help predict the severity of the disease.53The common agreement between the various international guidelines. that oral adhesicylline is the first line option for the treatment of outpatients and ampicillin or penicillin G aqueous or amoxicillin (originally administered intravenously) are the first line of options for treatment patients hospitalized with CAP in a group under five years of age.54 This is based on the general consensus that S. pneumonia is the most common and terrible bacterial causal agent in CAP children among children under five years of age and therefore It should be the target of antibiotic therapy.55 For example, the detection of S. pneumoniae CRP in the blood has recently been identified as a predictor of hypoxemia in children, hospitalized with CAP.50A systematic review, published in 2016 analyzed all randomized clinical trials, published in April 2015, in which children with CAP were treated with antibiotics and followed: 54 studies were included, of which 13 assessed the effectiveness of amoxicillin in non-hospital patients and 8 assessed the effectiveness of amoxicillin in 56 patients hospitalized.56 way, amoxicillin amoxicillin the most studied antimicrobials, with the best methodological approach and the most reliable evidence. Two different dose regimens were compared in one clinical trial conducted in El Salvador, Brazil: 820 children with non-severe CAP were randomly assigned to receive 50 mg/kg/day of amoxicillin two or three times a day; It was a randomized, triple-blind, placebo-controlled trial that showed equivalence in the effectiveness of both treatment regimens.57 Thus, the most convenient and convenient dose (50 mg/kg/day twice a day) can be used based on scientific evidence. It is important to remember that the main pharmacodynamic efficacy of amoxicillin is the duration above the minimum concentration of prohibition (MIC), which should be ≥ 40%-50% interval between doses during treatment of pneumococcus CAP.58 Pharmacokinetic study compared doses two and three times a day in children, who received 50 mg/kg/day and reported that 91% of patients had amoxilin concentrations above 0.5 g/ml per qgt; 50% of the dose range and 42% had amoxicline concentrations above 2.0 g/l at zgt;50% of the dose interval administered twice a day.59 This means that the adequacy of 50 mg/kg/day of amoxicillin should be revised according to MIC pneumococcal strains isolated in the region. For example, Canadian authors recently advised against the regular use of high doses of amoxicillin for non-severe CAP cases in Canada, as only 0.6% of pneumococcal strains had intermediate resistance (MIC and 4 micrograms/ml) to amoxicillin. These authors also argued that the unreasonable use of high doses of amoxicillin leads to increased costs, side effects and overall exposure to antibiotics, harmful effects on microbiome patients should also be considered.60A the general practical question is whether macrolides should be administered empirically as a first-line option to treat children with CAP and several attempts have been made to address the problem. To date, the most compelling evidence has been presented by the Brazilian study: 703 children under the age of five had non-implicit CAP, received amoxicillin and followed them in perspective; amoxicilin was replaced in 3.5% of children diagnosed with acute M. pneumoniae or C. pneumoniae infection and in 2.7% of children without this type of infection (p No. 0.6). Three children with acute C. trachomatis infection did not attend therapeutic failures and amoxicillin was an antibiotic used throughout the treatment period. The authors concluded that there is no need to treat atypical bacterial infection in all children between the ages of 2 and 59 months with non-severe CAP; To whom The use of macrolides can be reserved for those rare cases in which amoxicillin has not been effective.22In the current practical question of the duration of antibiotic therapy. A systematic review published in 2008 assessed the effectiveness of short and long-term antibiotic treatment in children between the ages of 2 and 59 months with non-severe CAP, and identified two clinical trials in which three and five days of amoxicillin treatment were compared (one in India and one in Pakistan) and one clinical trial in which three and five days of Cotrimoxazole (in Indonesia and Bangladesh) were compared: no study showed a difference in the effectiveness of treatment duration.61 It is of paramount importance to note that all three studies diagnosed patients with CAP according to which the diagnostic criteria: the availability of aquipnea. Obviously, cases of asthma, bronchiolitis and other lower respiratory diseases were included, and the DIAGNOSIS of CAP was misdiagnosed in children with other respiratory diseases. This is why the results of studies that are diagnosed with CAP with WHO criteria should be generalized only for cases diagnosed in clinical practice with the same criteria, since these results may differ in radio logically confirmed pneumonia or bacterial pneumonia.25 In this context, we emphasize clinical trials, Published in 2014 and conducted in Israel: children between the ages of six and 59 months, with radiological detection of alveolar penetration on chest X-rays during hospitalization, temperature ≥ 38.5 degrees Celsius, total number of white blood cells ≥ 15,000/mm3, no signs of danger were monitored daily, three days of treatment were initially compared with ten days. Due to therapeutic failure 33% in the first hand against none (0%) in the second hand of the study, an interim preliminary analysis changed the duration of treatment in the first hand to five days. After all, 56 and 59 cases were treated five or ten days of amoxicillin, respectively, without any therapeutic failures. The authors concluded that five days of amoxicillin is sufficient to treat CAP with alveolar penetration, with no signs of danger or complications.62Nono, WHO made major changes to its recommendation in 2012: for children with fast breathing and wheezing, but without a pectoral rebuttal, a sign of danger or fever (38 degrees Celsius), antibiotics should not be regularly recommended, as the cause is most likely a viral infection.45 This has been progress under the old antibiotic prescribing policy for any child under five with coughs and accipies due to the risk of bacterial infection and death and is associated with the recognition that respiratory diseases are the main causes of CAP in children, as well as such as fever and wheezing, can pre-identify children who may not have a bacterial infection. Some records advise antibiotic therapy in hospitalized patients where ampicillin or aqueous penicillin G or amoxicillin (originally administered intravenously) are first-line options.54 The American guide says that the third generation of cephalosporins may be the first choice only in places with a high prevalence of pneumococcal resistance to penicillin, i.e., with a minimum concentration of prohibition (MIC) ≥ 4 micrograms/ml.48 it has been demonstrated, that patients infected with pneumococococns with MIC up to 4 micrograms/ml have a good response in the treatment of G penicillin at a dose of 200,000 IU/kg/day.63 It was it is also shown that the daily dose of 200,000 IU/kg/day is as effective as every four hours or every six hours.64 When treatment is given at a longer interval between doses, is more convenient for patients and health care providers. that increases adtake, in addition to being cheaper for medical facilities. It is also important to comment on how patients hospitalized with CAP develop during antibiotic treatment. Another Brazilian study included 154 children hospitalized over two months with radio-confirmed CAP, all treatment with acvicillin G (200,000 IU/kg/day) and penicillin was replaced at 26 (18%) and penicillin was replaced at 26 (18%). cases due to the deteriorating clinical picture. Among the remaining 128 cases that received penicillin G during the entire treatment period, short, fever and breast rebuttal were still present after 48 hours of antibiotic therapy in 51.0%, 26.8% and 10.3% of cases, respectively; similarly, 120 hours after treatment began, in 33.3%, 10.3% and 2.2% of cases, respectively, all patients had a full recovery and were discharged from the hospital with oral amoxicillin instead of acveal G penicillin for the end of antimicrobial therapy. These figures show that patients may have a slow recovery, suggesting that there is no need to replace antibiotics if the patient does not present clinical/radiological impairment. Therefore, the use of ceftriaxone in cases with a very severe disease or association of oxacillin or macrolide should occur in certain situations, in which it can be concluded that there are pneumocococ cells of high resistance to penicillin, or H. influenzae, β lactamas (ceftriaxone), or Staphylococcus aureus (oxacillin indicator), or even atypical bacteria (macrolide indicator).55Pations less than two months should be hospitalized and receive intravenous antibiotics, as they are more likely to receive macrolide).54Pacienti should be hospitalized and receive antibiotics for less than two months. chances of getting intravenous antibiotics antibiotics regardless of other factors compared to children over two months of age.66 In this age group, group B streptococcus, gram-negative intestinal bacteria, listeria monocytogenes and S. pneumoniae are potential causal.67.68 So, antibiotic therapy in this age group includes the introduction of intravenous (IV) or intramuscular ampicillin (IM) associated with amineglycosides throughout treatment, and from one week it is possible to replace the amineglycosides of the third generation.69 If the age is 1 month, cefotax is the drug of choice, given hypercobilization. Ceftriaxone increases the risk of kernicterus in these patients, as it has a high avicity to serum proteins, especially albumin, which binds to bilirubin.70 The presence of C. trachomatis should be suspected in the presence of conjunctivitis. In this case, the recommended choice of antibiotics is erythromycin.54Incontinuary words about corticosteroids as additional therapy is needed. The Spanish study was conducted as a multicenter, randomized, double-blind, parallel, placebo-controlled clinical trial. Sixty children aged between one month and 14 years, with CAP and pleural effusion, were included. The authors described a faster recovery rate, measured objectively in the clock, in a group that received Dandhazone (DXM) 0.15mg/kg, every six hours, for 48 hours, in addition to cefotaxima compared to the control group. There were no significant differences in drug-related side effects in the study, except for hyperglycemia. Thus, the authors concluded that DXM appeared to be a safe and effective adjuvant therapy to reduce recovery time in children with parapneymonic pleural effusion.71 Another study included children with severe CAP: 29 patients received five-day methylylpronizone treatment plus imipenem and 30 patients received more imipen plus placebo. The authors reported that the methylprednisolone team provided a faster resolution of symptoms.72 A recent systematic review identified four randomized clinical trials involving 310 children; Corticosteroids reduced initial clinical failure rates (RR 0.41 (95%CI: 0.24 x 0.70); high-quality data) based on two small heterogeneous clinical trials and reduced time for clinical treatment.73 To date, the role of corticosteroids in CAP adjuvant therapy in childhood has not yet been established. Additional support is needed to recommend the use of corticosteroids in clinical practice in subgroups with a clear severity and in relation to various antibiotics, especially β-lactams.54ConclusionCAP continues to be the main cause and mortality among children under five years of age worldwide. Respiratory viruses are now recognized as the main causal ones. Hypoxemia (oxygen saturation ≤ 96%) and increased breathing efforts are signs most commonly associated with CAP. As for gravity assessment, signs of danger (inability to drink/feed, vomiting of all food, cramps, lower breast rebuttal, central cytosis, lethargy, burrow holes, grunts, nods and oxygen saturation qlt; 90%) have been recognized as predictors of death and can be used as indicators of hospitalization. The first line option for antibiotic treatment includes oral amoxicillin for outpatients and ampicillin or aceous penicillin G or amoxicillin (originally administered intravenously) for hospitalized patients. Future research should give priority to identifying and testing tools for differentiating children with CAP from children with a viral infection from children with bacterial infection. The funding of CMPC is a senior research fellow at the National Council for Scientific and Technical Development (CNPq). Conflicts of interestSpots says there is no conflict of interest. How to cite this article: Nascimento-Carvalho CM. Community pneumonia among children: the latest data for the updated management. J Pediatrician (River J). 2020;96(S1): 29-38. The © 2019. Brazilian Society of Pediatrics