Pulmonary research recently published in Brazilian journals*,**

Pesquisas em pneumologia recentemente publicadas em revistas brasileiras

Ariane Maris Gomes, Daniela Aquemi Higa

Abstract

We reviewed original articles in the field of pulmonary medicine that had been recently published in 12 Brazilian journals—general or specialty journals—excluding the Brazilian Journal of Pulmonology. All were journals indexed for the Institute for Scientific Information Web of Knowledge. The selection of articles was based on the "continuously variable rating" concept. We have organized the articles by category.

Keywords: Pulmonary medicine; Medical oncology; Research; Infectious disease medicine.

Resumo

Revisamos estudos originais no campo da pneumologia que foram recentemente publicados em 12 publicações gerais ou de especialidades — que não o Jornal Brasileiro de Pneumologia — indexadas no *Institute for Scientific Information Web of Knowledge*. A seleção dos artigos foi baseada no conceito de *continuously variable rating*, e os artigos foram classificados em categorias.

Descritores: Pneumologia; Oncologia; Pesquisa; Infectologia.

Introduction

We reviewed original articles in the field of pulmonary medicine that had been recently published in 12 Brazilian journals—general or specialty journals—excluding the Brazilian Journal of Pulmonology.

All were journals indexed for the Institute for Scientific Information Web of Knowledge. The selection of articles was based on the "continuously variable rating" concept.[1]

The selected articles were divided into categories, which are listed here in descending order of frequency.

Mechanical ventilation

Among the articles selected, the most common topic was that of mechanical ventilation (MV).

We found thirteen recently published articles dealing with that topic.

According to Pantoni et al.,[2] the level of continuous positive airway pressure alters post-operative HR variability and breathing pattern in patients submitted to coronary artery bypass grafting. The authors also demonstrated that 8-12 cmH_2O of continuous positive airway pressure provides the best pulmonary and cardiac autonomic function.

Vidotto et al.[3] showed that, in patients undergoing neurosurgery, extubation failure significantly increases the risk of death, as well as that of post-operative pulmonary complications and tracheostomy. The authors stated that, among the risks evaluated, only that of post-operative pulmonary complications was significantly increased by prolonged MV.

Casaroli et al.[4] evaluated a rat model of bacterial peritonitis. The authors found that pneumoperitoneum alone or in combination with controlled ventilation does not modify bacterial clearance via the peritoneal lymphatic system.

Ferreira et al.[5] compared a sigmoidal model and an exponential model to fit pressure-volume curves from mechanically ventilated patients under general anesthesia with idiopathic pulmonary fibrosis. The results suggest that respiratory system

* Study carried out at the University of São Paulo School of Medicine *Hospital das Clínicas*, São Paulo, Brazil.
Correspondence to: Ariane M Gomes. Rua Dr. Ovídio Pires de Campos, 225, 6º andar, ECP 05403-010, São Paulo, SP, Brasil.
Tel. 55 11 2661-6235. E-mail: ariane.gomes@hc.fm.usp.br or daniela.higa@hc.fm.usp.br
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compliance is decreased close to end-expiratory lung volume in those patients.

According to Lopez et al.,[6] the need for more than 2 h of MV predicts the development of bronchopulmonary dysplasia in preterm infants with a gestational age > 26 weeks. The authors also suggested that the need for prolonged MV is an early marker of bronchopulmonary dysplasia.

Nery et al.[7] suggested that daily screening of patients in order to identify those able to breathe without support, combined with noninvasive positive-pressure ventilation, reduces the duration of MV and total ventilatory support without increasing the risk of reintubation. That intervention was identified as an independent factor associated with survival.

Schifelbain et al.[8] compared two weaning methods (pressure support ventilation and T-tube) and found no differences between the two methods in terms of Doppler echocardiographic, electrocardiographic, or other cardiorespiratory variables prior to and 30 min after weaning from MV, regardless of the outcome of the weaning. However, the authors found that cardiac structures were smaller, isovolumetric relaxation time was longer, and oxygenation level was greater in successfully weaned patients than in those who failed.

According to Almeida et al.,[9] the increase in the phase III slope normalized to tidal volume in asthma patients suggests that these patients have ventilation inhomogeneity in the distal air spaces. The authors speculated that this reflects chronic structural disorders or reversible acute changes seen on the bronchial provocation test.

According to Araujo et al.,[10] stress ulcer prophylaxis is a common practice in pediatric ICUs in the city of Porto Alegre, Brazil, ranitidine being the drug most commonly used. Chief among the various reasons given for providing the prophylactic treatment were the increased risk in patients on MV and the fact that it is part of the informal routine in those ICUs.

Carvalho et al.[11] reported that the mean accidental extubation density was 5.34/100 patient-days on MV in a tertiary neonatal ICU, and that the duration of assisted ventilation was its only independent predictor. The authors also stated that the best accuracy for the occurrence of accidental extubation was achieved at 10.5 days of assisted ventilation.

Hanashiro et al.[12] studied the impact that transferring a pediatric MV-dependent population from the ICU to MV dependency units or to home MV had on bed availability in the ICU. Their results suggest that the transfer of such patients increases ICU bed availability and that the survival rates for patients who are sent home on MV are similar to those for patients who remain hospitalized on MV.

Hentges et al.[13] reported that detectable levels of caffeine in umbilical cord blood did not decrease the occurrence of apnea of prematurity but had a borderline effect on delaying its occurrence. That finding suggests that even low levels of caffeine in umbilical cord blood delays the occurrence of apnea spells.

According to Sukys et al.,[14] rapid sequence intubation is the method of choice for tracheal intubations performed in the emergency room, because it has proven to be safe and had a low incidence of severe complications. However, in that study, there was a low success rate, which the authors attributed to poor preparation for the procedure and limited experience on the part of the practitioner.

Diagnostic procedures

The second most commonly addressed topic was that of diagnostic procedures. Among the recently published articles evaluated, eleven dealt with that topic.

Anciães et al.[15] induced experimental emphysema in BALB/c mice. The authors found that morphometric parameters are more reliable for detecting the presence of emphysema than are functional parameters measured by respiratory mechanics.

Bosch et al.[16] described the functioning of a quick diagnosis unit in a Spanish public university hospital. The authors concluded that this type of unit represents a useful and cost-saving model for the diagnostic study of patients with potentially severe diseases.

Boskabady et al.[17] evaluated individuals engaged in carpentry work in the city of Mashhad (northeast Iran). The authors found that such work is associated with a high frequency of respiratory symptoms, particularly after exposure to irritating chemicals during work.

Costa et al.[18] studied the application of the pediatric risk of mortality score. The authors concluded that the score shows adequate

discriminatory capacity, being a useful tool for the assessment of prognosis in pediatric patients admitted to tertiary pediatric ICUs.

Faria et al.[19] studied the use of the forced oscillation technique to investigate the mechanical properties of the respiratory system in order to detect early smoking-induced respiratory involvement, when pathologic changes are still potentially reversible. The authors concluded that the technique is a versatile clinical tool for the prevention, diagnosis, and treatment of COPD.

Guimarães et al.[20] evaluated CT-guided percutaneous fine needle aspiration biopsy of pulmonary lesions. The authors found that the rate of complications was 14.4%, and that the rate was significantly higher when the lesions had no pleural contact than when they did.

Pimenta et al.[21] proposed a new composite index (the desaturation-distance ratio), using continuous SpO_2 and the distance covered on the six-minute walk test. The authors concluded that the desaturation-distance ratio is a promising, reliable physiologic tool for the evaluation of interstitial lung disease.

Rocha et al.[22] found that differences in renal function and tubular handling of potassium and phosphorus are present during the first week of life among preterm neonates who will develop bronchopulmonary dysplasia. The authors also found that patent ductus arteriosus and increased indomethacin use accentuate those differences.

Schachner et al.[23] evaluated patients undergoing isolated coronary artery bypass grafting. The authors found that, among such patients, pre-operative levels of N-terminal pro-brain natriuretic peptide > 502 ng/mL predict mid-term mortality, as well as being associated with significantly higher rates of in-hospital mortality and peri-operative complications.

Vieira et al.[24] developed and validated a predictive score for clinical complications during intra-hospital transport of infants treated in neonatal units. That score presented adequate discriminative power and calibration.

Boechat et al.[25] performed a cross-sectional study of intra- and inter-observer reliability of HRCT images of very-low-birth-weight infants and concluded that there was quite good intra- and inter-observer concordance.

Infectious diseases

Among the articles evaluated, infectious diseases were quite frequently addressed. We found nine articles dealing with the diagnosis or treatment of infectious diseases.

Arslan et al.[26] studied patients with community-acquired pneumonia. The authors found that plasma D-dimer levels, which are directly related to the intra- and extra-vascular coagulation that occurs in acute and chronic lung damage, were increased in those patients, regardless whether they had an accompanying disease that would normally cause such an increase.

Capelozzi et al.[27] report a detailed histopathological analysis of open lung biopsy specimens from five patients with acute respiratory distress syndrome and confirmed H1N1 infection, which was evidenced by viral-like particles in lung tissue, as identified through ultrastructural examination. Bronchioles and epithelium, rather than endothelium, seem to be the primary targets of H1N1 infection.

According to Chung et al.,[28] various risk factors can predict pulmonary function deterioration following tuberculosis treatment. The authors stated that patients with significant respiratory symptoms and multiple risk factors require pulmonary function testing in order to monitor the progression of functional impairment, especially within the first 18 months after the completion of the treatment.

Soeiro et al.[29] reviewed the autopsies of 4,710 patients with acute respiratory failure. The authors found that bronchopneumonia and cancer were the two most common diagnoses. The most prevalent pulmonary histopathological pattern was diffuse alveolar damage, which was associated with different inflammatory conditions.

In a study conducted in Brazil by da Silva et al.,[30] 51 *Rhodococcus equi* isolates were identified in the sputum samples of 546 individuals suspected of having pulmonary tuberculosis. The authors described the epidemiology of the infection, as well as the phenotypic characteristics and drug susceptibility profile of the isolates.

Dias et al.[31] found that, in BALB/c mice co-infected with tuberculosis and the intestinal helminth *Strongyloides venezuelensis*, interleukin-17A production by lung cells was reduced and susceptibility to *Mycobacterium bovis* was increased. The authors suggested

that intestinal infection with the helminth has a detrimental effect on the control of tuberculosis.

Boechat et al.[32] described a scoring system based on abnormalities identified on HRCT scans of premature infants and measured the predictive validity of the score in relation to respiratory morbidity during the first year of life. According to the authors, the scoring system is reproducible and easy to apply, allowing HRCT comparisons among premature infants by the identification of patients with different risk factors for respiratory morbidity.

Toufen et al.[33] evaluated patients with acute respiratory distress syndrome. The authors reported that, despite the marked severity of lung disease at admission, the patients in whom the acute respiratory distress syndrome was caused by infection with the swine-origin influenza A (H1N1) virus presented a late but substantial recovery over six months of follow-up.

De Paulis et al.[34] compared isolated infection with respiratory syncytial virus (RSV) and co-infection with RSV and other viruses, in terms of severity. The authors concluded that viral co-infections do not seem to affect the prognosis of hospitalized infants with acute RSV infection.

Oncology

A number of recently published articles dealt with the field of oncology. We identified six such articles.

According to Ardengh et al.,[35] transesophageal ultrasound-guided fine needle aspiration is an alternative to surgical procedures. The authors stated that, in the vast majority of cases, the former can be used for the investigation of mediastinal lesions.

Miziara et al.[36] evaluated the combination of standard CT scans and Tc-99m sestamibi single-photon emission CT scans for the nodal staging of patients with non-small cell lung cancer. The authors found that, although the combination showed high specificity, its sensitivity and accuracy were quite low.

Parra et al.[37] studied the lungs of BALB/c mice after chemical carcinogenesis and found a direct link between low amounts of type V collagen and decreased cell apoptosis, which might favor neoplasia. The authors therefore suggested that strategies aimed at preventing decreased type V collagen synthesis or local responses that reduce apoptosis might have a significant impact on the control of lung cancer.

Pereira et al.[38] studied urethane-induced lung tumors in Swiss mice. The authors found that even low levels of exposure to fine particulate matter increased the risk of developing such tumors.

Sardenberg et al.[39] evaluated the treatment of patients with non-lung primary tumors. The authors concluded that pulmonary metastasectomy is a safe and potentially curative procedure for such patients, and that select patients can achieve long-term survival after lung resection.

Terra et al.[40] studied the use of talc pleurodesis carried out entirely on an outpatient basis in patients with recurrent malignant pleural effusions and Karnofsky performance status < 70. The authors found that, in such cases, outpatient talc pleurodesis is a safe, efficacious procedure, has low complication rates, and reduces hospital admissions.

Zhang et al.[41] found that tumor-associated macrophages in lung adenocarcinoma have an M2-polarized subtype and are associated with poor prognoses. The authors suggested that this results from accelerated lymphangiogenesis and lymph node metastasis.

Exercise

One somewhat popular topic among the articles evaluated was that of exercise. Four articles addressed the relationships among diseases, treatments, and exercise.

Gimenes et al.[42] studied the oxygen uptake to work rate ratio in relation to various indicators of aerobic dysfunction during ramp incremental exercise in patients with mitochondrial myopathy and controls. The authors concluded that that ratio is a readily available, effort-independent index of aerobic dysfunction.

Mainenti et al.[43] investigated the effects of levothyroxine on cardiopulmonary exercise reserve and recovery in patients with subclinical hypothyroidism. The authors found that levothyroxine improved exercise cardiopulmonary reserve but had no effect on cardiopulmonary recovery after exercise during the 6-month study period.

Castro et al.[44] compared respiratory responses during progressive cardiopulmonary exercise tests performed on cycle or arm ergometers. Those authors found that, although not influencing the timing of breathing, the type of exercise

influences time-domain ventilatory variability in young, healthy individuals.

Myers et al.[45] found that impaired cardiac output recovery kinetics can identify heart failure patients with greater disease severity, lower exercise capacity, and inefficient ventilation. Estimating cardiac output during recovery from exercise might provide additional insight into the cardiovascular status of patients with heart failure.

Allergy

Among the recently published articles evaluated, only three dealt with the topic of allergic diseases. Nevertheless, we found those articles quite interesting.

Boskabady et al.[46] studied the effect of hydroethanolic extract of *Nigella sativa* in ovalbumin-sensitized guinea pigs. The authors found that the extract had a preventive effect on the tracheal responsiveness, as well as on the white blood cell count in the BAL fluid.

Gomieiro et al.[47] found that, in elderly individuals with asthma, a respiratory exercise program increased muscle strength and was associated with a positive effect on health and quality of life. The authors concluded that such a program should be included in the therapeutic approach to those patients.

Guimarães et al.[48] assessed pulmonary function and the prevalence of atopy in school-age children who had been very-low-birth-weight infants. The authors found that there were no significant differences between the children with and without bronchopulmonary dysplasia in terms of lung function parameters, nor was there any evidence of an association between atopy and bronchopulmonary dysplasia.

Epidemiology

Epidemiology continues to be the object of much research worldwide. Among the articles evaluated, we found three dealing with epidemiological issues.

Mamishi et al.[49] determined the most common infectious causes of hospital admissions in select Iranian patients with primary antibody deficiencies. The authors found that respiratory tract infections were the most common cause of hospitalization among those patients.

Lamy et al.[50] evaluated neonatal ICUs at public hospitals in the city of São Luis, Brazil. Those authors found that staff work overload increases the occurrence of intermediate adverse effects in newborns and suggested that work overload be taken into consideration when evaluating outcomes in such ICUs.

Marba et al.[51] studied the treatment of very-low-birth-weight neonates over a period of 15 years. The authors found that the incidence of periventricular/intraventricular hemorrhage declined significantly over the study period.

Obstructive sleep apnea

Obstructive sleep apnea (OSA) has long been of interest to pulmonologists. Among the recently published articles evaluated, there were two dealing with that topic.

Neves et al.[52] evaluated the effects of sildenafil on the autonomic nervous system in patients with severe OSA. The authors found evidence to suggest that, in addition to worsening sleep apnea, sildenafil has potentially immediate and negative cardiac effects in patients with severe OSA.

According to Romano et al.,[53] the determination of flow limitation (exhaled air volume in 0.2 s) by a negative expiratory pressure test during wakefulness might be a highly sensitive and reliable method of identifying OSA. When the test is positive, mild OSA can be presumed; when it is negative, moderate and severe OSA can be excluded.

COPD

The treatment of COPD constitutes a major challenge for pulmonologists. Here, we evaluated two articles on the topic of COPD.

Reis et al.[54] found that patients with COPD present impaired sympathetic-vagal balance at rest. Those authors also found that autonomic control of HR is associated with inspiratory muscle weakness in COPD.

Silva et al.[55] found that, in patients with severe COPD, respiratory alterations can be identified by increased respiratory system impedance, which is more evident in the expiratory phase. Their results seem to confirm the potential of within-breath analysis of respiratory impedance for the assessment of COPD-related respiratory alterations.

Trauma

Trauma can have disastrous effects on the respiratory system. Of the recently published articles evaluated, two dealt with those effects and their treatment.

Dong et al.[56] reported that victims of the Sichuan earthquake who had sustained crush-related thoracic trauma exhibited life-threatening conditions, with a high incidence of bone fractures in the thorax. Bilateral involvement of the ribs was common, as were severe types of fractures, which were accompanied by non-rib fractures and injury to the lung parenchyma or pleura.

According to Sincos et al.,[57] endovascular treatment is a safe method for repairing blunt aortic trauma, with immediate and mid-term results that were comparable to those obtained with surgical repair. No complications caused by the stent graft were identified during the follow-up period (mean, 33 months).

Other

Among the recently published articles selected, there were some that dealt with topics other than those listed above. We evaluated six such articles.

Ranzani et al.[58] evaluated a group of critically ill patients with systemic lupus erythematosus and a group of patients with other systemic rheumatic diseases. The authors found that the incidence of severe respiratory dysfunction at admission was lower in the former group, whereas the incidence of severe hematologic dysfunction was lower in the latter.

Barbalho-Moulim et al.[59] studied a group of obese women undergoing open bariatric surgery. The authors showed that pre-operative inspiratory muscle training attenuates the impact that the trauma of bariatric surgery has on respiratory muscle strength without altering lung volumes or diaphragmatic excursion.

In a murine model of hemorrhagic shock, Costantini et al.[60] evaluated the use of hypertonic saline, which has hemodynamic and immune benefits, in combination with the phosphodiesterase inhibitor pentoxifylline, which has anti-inflammatory effects, as a hemorrhagic shock resuscitation strategy. The authors found that the use of that combination resulted in less lung injury than did the use of Ringer's lactate.

Dogan et al.[61] evaluated rats exposed to smoke (tobacco smoke and biomass smoke). The authors reported that tobacco smoke caused severe damage to the respiratory histopathology, particularly when there was concomitant exposure to biomass smoke.

Otsuki et al.,[62] compared two preparations of the anesthetic sevoflurane (with water and with propylene glycol) in pigs. The authors found the two preparations to be equal regarding their hemodynamic and pulmonary effects.

Silva et al. [63] tested the effects that mycophenolate sodium, one of the most commonly used immunosuppressive drugs in lung transplantation, has on mucociliary clearance in rats. The authors found that the drug had no effect on transportability but significantly reduced mucociliary transport velocity in situ.

References

1. Rocha e Silva M. Continuously variable rating: a new, simple and logical procedure to evaluate original scientific publications. Clinics (Sao Paulo). 2011;66(12):2099-104. http://dx.doi.org/10.1590/S1807-59322011001200016
2. Pantoni CB, Di Thommazo L, Mendes RG, Catai AM, Luzzi S, Amaral Neto O, et al. Effects of different levels of positive airway pressure on breathing pattern and heart rate variability after coronary artery bypass grafting surgery. Braz J Med Biol Res. 2011;44(1):38-45. http://dx.doi.org/10.1590/S0100-879X2010007500129
3. Vidotto MC, Sogame LC, Gazzotti MR, Prandini M, Jardim JR. Implications of extubation failure and prolonged mechanical ventilation in the postoperative period following elective intracranial surgery. Braz J Med Biol Res. 2011;44(12):1291-8. http://dx.doi.org/10.1590/S0100-879X2011007500146
4. Casaroli AA, Mimica LM, Fontes B, Rasslan S. The effects of pneumoperitoneum and controlled ventilation on peritoneal lymphatic bacterial clearance: experimental results in rats. Clinics (Sao Paulo). 2011;66(9):1621-5. http://dx.doi.org/10.1590/S1807-59322011000900020
5. Ferreira JC, Benseñor FE, Rocha MJ, Salge JM, Harris RS, Malhotra A, et al. A sigmoidal fit for pressure-volume curves of idiopathic pulmonary fibrosis patients on mechanical ventilation: clinical implications. Clinics (Sao Paulo). 2011;66(7):1157-63. http://dx.doi.org/10.1590/S1807-59322011000700006
6. López ES, Rodríguez EM, Navarro CR, Sánchez-Luna M. Initial respiratory management in preterm infants and bronchopulmonary dysplasia. Clinics (Sao Paulo). 2011;66(5):823-7. http://dx.doi.org/10.1590/S1807-59322011000500019
7. Nery P, Pastore L, Carvalho CR, Schettino G. Shortening ventilatory support with a protocol based on daily extubation screening and noninvasive ventilation in selected patients. Clinics (Sao Paulo). 2011;66(5):759-66. http://dx.doi.org/10.1590/S1807-59322011000500009
8. Schifelbain LM, Vieira SR, Brauner JS, Pacheco DM, Naujorks AA. Echocardiographic evaluation during weaning from mechanical ventilation. Clinics (Sao Paulo). 2011;66(1):107-11. http://dx.doi.org/10.1590/S1807-59322011000100019

9. Almeida CC, Almeida-Júnior AA, Ribeiro MA, Nolasco-Silva MT, Ribeiro JD. Volumetric capnography to detect ventilation inhomogeneity in children and adolescents with controlled persistent asthma. J Pediatr (Rio J). 2011;87(2):163-8. http://dx.doi.org/10.2223/JPED.2077
10. Araujo TE, Vieira SM, Carvalho PR. Stress ulcer prophylaxis in pediatric intensive care units. J Pediatr (Rio J). 2010;86(6):525-30. http://dx.doi.org/10.2223/JPED.2046
11. Carvalho FL, Mezzacappa MA, Calil R, Machado Hda C. Incidence and risk factors of accidental extubation in a neonatal intensive care unit. J Pediatr (Rio J). 2010;86(3):189-95. http://dx.doi.org/10.1590/S0021-75572010000300005
12. Hanashiro M, Franco AO, Ferraro AA, Troster EJ. Care alternatives for pediatric chronic mechanical ventilation. J Pediatr (Rio J). 2011;87(2):145-9. http://dx.doi.org/10.2223/JPED.2072
13. Hentges CR, Guedes RR, Silveira RC, Procianoy RS. Serum levels of caffeine in umbilical cord and apnea of prematurity. J Pediatr (Rio J). 2010;86(2):137-42. http://dx.doi.org/10.2223/JPED.1990
14. Sukys GA, Schvartsman C, Reis AG. Evaluation of rapid sequence intubation in the pediatric emergency department. J Pediatr (Rio J). 2011;87(4):343-9. http://dx.doi.org/10.2223/JPED.2113
15. Anciães AM, Olivo CR, Prado CM, Kagohara KH, Pinto Tda S, Moriya HT, et al. Respiratory mechanics do not always mirror pulmonary histological changes in emphysema. Clinics (Sao Paulo). 2011;66(10):1797-803.
16. Bosch X, Foix A, Jordan A, Coca A, López-Soto A. Outpatient Quick Diagnosis Units for the evaluation of suspected severe diseases: an observational, descriptive study. Clinics (Sao Paulo). 2011;66(5):737-41. http://dx.doi.org/10.1590/S1807-59322011000500005
17. Boskabady MH, Rezaiyan MK, Navabi I, Shafiei S, Arab SS. Work-related respiratory symptoms and pulmonary function tests in northeast Iranian (the city of Mashhad) carpenters. Clinics (Sao Paulo). 2010;65(10):1003-7. http://dx.doi.org/10.1590/S1807-59322010001000013
18. Costa GA, Delgado AF, Ferraro A, Okay TS. Application of the pediatric risk of mortality (PRISM) score and determination of mortality risk factors in a tertiary pediatric intensive care unit. Clinics (Sao Paulo). 2010;65(11):1087-92. http://dx.doi.org/10.1590/S1807-59322010001100005
19. Faria AC, Costa AA, Lopes AJ, Jansen JM, Melo PL. Forced oscillation technique in the detection of smoking-induced respiratory alterations: diagnostic accuracy and comparison with spirometry. Clinics (Sao Paulo). 2010;65(12):1295-304. http://dx.doi.org/10.1590/S1807-59322010001200012
20. Guimarães MD, Andrade MQ, Fonte AC, Benevides G, Chojniak R, Gross JL. Predictive complication factors for CT-guided fine needle aspiration biopsy of pulmonary lesions. Clinics (Sao Paulo). 2010;65(9):847-50. http://dx.doi.org/10.1590/S1807-59322010000900006
21. Pimenta SP, Rocha RB, Baldi BG, Kawassaki Ade M, Kairalla RA, Carvalho CR. Desaturation - distance ratio: a new concept for a functional assessment of interstitial lung diseases. Clinics (Sao Paulo). 2010;65(9):841-6. http://dx.doi.org/10.1590/S1807-59322010000900005
22. Rocha G, Ribeiro O, Guimarães H. Fluid and electrolyte balance during the first week of life and risk of bronchopulmonary dysplasia in the preterm neonate. Clinics (Sao Paulo). 2010;65(7):663-74. http://dx.doi.org/10.1590/S1807-59322010000700004
23. Schachner T, Wiedemann D, Fetz H, Laufer G, Kocher A, Bonaros N. Influence of preoperative serum N-terminal pro-brain type natriuretic peptide on the postoperative outcome and survival rates of coronary artery bypass patients. Clinics (Sao Paulo). 2010;65(12):1239-45. http://dx.doi.org/10.1590/S1807-59322010001200004
24. Vieira AL, Santos AM, Okuyama MK, Miyoshi MH, Almeida MF, Guinsburg R. Predictive score for clinical complications during intra-hospital transports of infants treated in a neonatal unit. Clinics (Sao Paulo). 2011;66(4):573-7. http://dx.doi.org/10.1590/S1807-59322011000400009
25. Boëchat MC, Mello RR, Dutra MV, Silva KS, Daltro P, Marchiori E. Intra and interobserver reliability of the interpretation of high-resolution computed tomography on the lungs of premature infants. Sao Paulo Med J. 2010;128(3):130-6. http://dx.doi.org/10.1590/S1516-31802010000300005
26. Arslan S, Ugurlu S, Bulut G, Akkurt I. The association between plasma D-dimer levels and community-acquired pneumonia. Clinics (Sao Paulo). 2010;65(6):593-7. http://dx.doi.org/10.1590/S1807-59322010000600006
27. Capelozzi VL, Parra ER, Ximenes M, Bammann RH, Barbas CS, Duarte MI. Pathological and ultrastructural analysis of surgical lung biopsies in patients with swine-origin influenza type A/H1N1 and acute respiratory failure. Clinics (Sao Paulo). 2010;65(12):1229-37. http://dx.doi.org/10.1590/S1807-59322010001200003
28. Chung KP, Chen JY, Lee CH, Wu HD, Wang JY, Lee LN, et al. Trends and predictors of changes in pulmonary function after treatment for pulmonary tuberculosis. Clinics (Sao Paulo). 2011;66(4):549-56. http://dx.doi.org/10.1590/S1807-59322011000400005
29. Soeiro Ade M, Ruppert AD, Canzian M, Parra ER, Farhat C, Capelozzi VL. Demographic, etiological, and histological pulmonary analysis of patients with acute respiratory failure: a study of 19 years of autopsies. Clinics (Sao Paulo). 2011;66(7):1193-7. http://dx.doi.org/10.1590/S1807-59322011000700012
30. Silva P, Miyata M, Sato DN, Santos AC, Mendes NH, Leite CQ. Rhodococcus equi isolation from sputum of patients with suspected tuberculosis. Mem Inst Oswaldo Cruz. 2010;105(2):199-202. http://dx.doi.org/10.1590/S0074-02762010000200015
31. Dias AT, de Castro SB, Alves CC, Rezende AB, Rodrigues MF, Machado RR, et al. Lower production of IL-17A and increased susceptibility to Mycobacterium bovis in mice coinfected with Strongyloides venezuelensis. Mem Inst Oswaldo Cruz. 2011;106(5):617-9.
32. Boechat MC, Mello RR, Silva KS, Daltro P, Marchiori E, Ramos EG, et al. A computed tomography scoring system to assess pulmonary disease among premature infants. Sao Paulo Med J. 2010;128(6):328-35. Sao Paulo Med J. 2010;128(6):328-35.
33. Toufen C Jr, Costa EL, Hirota AS, Li HY, Amato MB, Carvalho CR. Follow-up after acute respiratory distress syndrome caused by influenza a (H1N1) virus infection. Clinics (Sao Paulo). 2011;66(6):933-7. http://dx.doi.org/10.1590/S1807-59322011000600002
34. De Paulis M, Gilio AE, Ferraro AA, Ferronato AE, do Sacramento PR, Botosso VF, et al. Severity of viral coinfection in hospitalized infants with respiratory syncytial virus infection. J Pediatr (Rio J). 2011;87(4):307-13.

35. Ardengh JC, Bammann RH, Giovani Md, Venco F, Parada AA. Endoscopic ultrasound-guided biopsies for mediastinal lesions and lymph node diagnosis and staging. Clinics (Sao Paulo). 2011;66(9):1579-83. http://dx.doi.org/10.1590/S1807-59322011000900013
36. Miziara JM, da Rocha ET, Miziara JE, Garcia GF, Simões MI, Lopes MA, et al. Preoperative nodal staging of non-small cell lung cancer using 99mTc-sestamibi spect/ct imaging. Clinics (Sao Paulo). 2011;66(11):1901-9. http://dx.doi.org/10.1590/S1807-59322011001100009
37. Parra ER, Bielecki LC, Ribeiro JM, Andrade Balsalobre F, Teodoro WR, Capelozzi VL. Association between decreases in type V collagen and apoptosis in mouse lung chemical carcinogenesis: a preliminary model to study cancer cell behavior. Clinics (Sao Paulo). 2010;65(4):425-32. http://dx.doi.org/10.1590/S1807-59322010000400012
38. Pereira FA, Lemos M, Mauad T, Assunção JV, Saldiva PH. Urban, traffic- related particles and lung tumors in urethane treated mice. Clinics (Sao Paulo). 2011;66(6):1051-4. http://dx.doi.org/10.1590/S1807-59322011000600022
39. Sardenberg RA, Figueiredo LP, Haddad FJ, Gross JL, Younes RN. Pulmonary metastasectomy from soft tissue sarcomas. Clinics (Sao Paulo). 2010;65(9):871-6. http://dx.doi.org/10.1590/S1807-59322010000900010
40. Terra RM, Teixeira LR, Bibas BJ, Pego-Fernandes PM, Vargas FS, Jatene FB. Effectiveness and safety of outpatient pleurodesis in patients with recurrent malignant pleural effusion and low performance status. Clinics (Sao Paulo). 2011;66(2):211-6. http://dx.doi.org/10.1590/S1807-59322011000200005
41. Zhang B, Yao G, Zhang Y, Gao J, Yang B, Rao Z, et al. M2-polarized tumor-associated macrophages are associated with poor prognoses resulting from accelerated lymphangiogenesis in lung adenocarcinoma. Clinics (Sao Paulo). 2011;66(11):1879-86. http://dx.doi.org/10.1590/S1807-59322011001100006
42. Gimenes AC, Neder JA, Dal Corso S, Nogueira CR, Nápolis L, Mello MT, et al. Relationship between work rate and oxygen uptake in mitochondrial myopathy during ramp-incremental exercise. Braz J Med Biol Res. 2011;44(4):354-60.
43. Mainenti MR, Teixeira PF, Oliveira FP, Vaisman M. Effect of hormone replacement on exercise cardiopulmonary reserve and recovery performance in subclinical hypothyroidism. Braz J Med Biol Res. 2010;43(11):1095-101. http://dx.doi.org/10.1590/S0100-879X2010007500116
44. Castro RR, Pedrosa S, Nóbrega AC. Different ventilatory responses to progressive maximal exercise test performed with either the arms or legs. Clinics (Sao Paulo). 2011;66(7):1137-42. http://dx.doi.org/10.1590/S1807-59322011000700003
45. Myers JN, Gujja P, Neelagaru S, Hsu L, Burkhoff D. Noninvasive measurement of cardiac performance in recovery from exercise in heart failure patients. Clinics (Sao Paulo). 2011;66(4):649-56. http://dx.doi.org/10.1590/S1807-59322011000400021
46. Boskabady MH, Keyhanmanesh R, Khamneh S, Ebrahimi MA. The effect of Nigella sativa extract on tracheal responsiveness and lung inflammation in ovalbumin-sensitized guinea pigs. Clinics (Sao Paulo). 2011;66(5):879-87. http://dx.doi.org/10.1590/S1807-59322011000500027
47. Gomieiro LT, Nascimento A, Tanno LK, Agondi R, Kalil J, Giavina-Bianchi P. Respiratory exercise program for elderly individuals with asthma. Clinics (Sao Paulo). 2011;66(7):1163-9. http://dx.doi.org/10.1590/S1807-59322011000700007
48. Guimarães H, Rocha G, Pissarra S, Guedes MB, Nunes T, Vitor B. Respiratory outcomes and atopy in school-age children who were preterm at birth, with and without bronchopulmonary dysplasia. Clinics (Sao Paulo). 2011;66(3):425-30. http://dx.doi.org/10.1590/S1807-59322011000300011
49. Mamishi S, Eghbali AN, Rezaei N, Abolhassani H, Parvaneh N, Aghamohammadi A. A single center 14 years study of infectious complications leading to hospitalization of patients with primary antibody deficiencies. Braz J Infect Dis. 2010;14(4):351-5. http://dx.doi.org/10.1590/S1413-86702010000400007
50. Lamy Filho F, Silva AA, Lopes JM, Lamy ZC, Simões VM, Dos Santos AM. Staff workload and adverse events during mechanical ventilation in neonatal intensive care units. J Pediatr (Rio J). 2011;87(6):487-92.
51. Marba ST, Caldas JP, Vinagre LE, Pessoto MA. Incidence of periventricular/intraventricular hemorrhage in very low birth weight infants: a 15-year cohort study. J Pediatr (Rio J). 2011;87(6):505-11.
52. Neves C, Tufik S, Chediek F, Poyares D, Cintra F, Roizenblatt M, et al. Effects of sildenafil on autonomic nervous function during sleep in obstructive sleep apnea. Clinics (Sao Paulo). 2010;65(4):393-400. http://dx.doi.org/10.1590/S1807-59322010000400008
53. Romano S, Salvaggio A, Lo Bue A, Marrone O, Insalaco G. A negative expiratory pressure test during wakefulness for evaluating the risk of obstructive sleep apnea in patients referred for sleep studies. Clinics (Sao Paulo). 2011;66(11):1887-94. http://dx.doi.org/10.1590/S1807-59322011001100007
54. Reis MS, Arena R, Deus AP, Simões RP, Catai AM, Borghi-Silva A. Deep breathing heart rate variability is associated with respiratory muscle weakness in patients with chronic obstructive pulmonary disease. Clinics (Sao Paulo). 2010;65(4):369-75. http://dx.doi.org/10.1590/S1807-59322010000400004
55. Silva KK, Lopes AJ, Jansen JM, de Melo PL. Total inspiratory and expiratory impedance in patients with severe chronic obstructive pulmonary disease. Clinics (Sao Paulo). 2011;66(12):2085-91. http://dx.doi.org/10.1590/S1807-59322011001200014
56. Dong ZH, Yang ZG, Chen TW, Chu ZG, Deng W, Shao H. Thoracic Injuries in earthquake-related versus non-earthquake-related trauma patients: differentiation via Multi-detector Computed Tomography. Clinics (Sao Paulo). 2011;66(5):817-22. http://dx.doi.org/10.1590/S1807-59322011000500018
57. Sincos IR, Aun R, Belczak SQ, Nascimento LD, Mioto Netto B, Casella I, et al. Endovascular and open repair for blunt aortic injury, treated in one clinical institution in Brazil: a case series. Clinics (Sao Paulo). 2011;66(2):267-74. http://dx.doi.org/10.1590/S1807-59322011000200015
58. Ranzani OT, Battaini LC, Moraes CE, Prada LF, Pinaffi JV, Giannini FP, et al. Outcomes and organ dysfunctions of critically ill patients with systemic lupus erythematosus and other systemic rheumatic diseases. Braz J Med Biol Res. 2011;44(11):1184-93. http://dx.doi.org/10.1590/S0100-879X2011007500132
59. Barbalho-Moulim MC, Miguel GP, Forti EM, Campos Fdo A, Costa D. Effects of preoperative inspiratory muscle training in obese women undergoing open bariatric surgery: respiratory muscle strength, lung

volumes, and diaphragmatic excursion. Clinics (Sao Paulo). 2011;66(10):1721-7. http://dx.doi.org/10.1590/S1807-59322011001000009
60. Costantini TW, Deree J, Martins JO, Putnam JG, Campos T, Coimbra R. A novel fluid resuscitation strategy modulates pulmonary transcription factor activation in a murine model of hemorrhagic shock. Clinics (Sao Paulo). 2010;65(6):621-8. http://dx.doi.org/10.1590/S1807-59322010000600010
61. Dogan OT, Elagoz S, Ozsahin SL, Epozturk K, Tuncer E, Akkurt I. Pulmonary toxicity of chronic exposure to tobacco and biomass smoke in rats. Clinics (Sao Paulo). 2011;66(6):1081-7. http://dx.doi.org/10.1590/S1807-59322011000600027
62. Otsuki DA, Fantoni DT, Holms C, Auler JO Jr. Minimum alveolar concentrations and hemodynamic effects of two different preparations of sevoflurane in pigs. Clinics (Sao Paulo). 2010;65(5):531-7. http://dx.doi.org/10.1590/S1807-59322010000500011
63. Silva VF, Pazetti R, Soto Sde F, Siqueira MM, Correia AT, Jatene FB, et al. Effects of mycophenolate sodium on mucociliary clearance using a bronchial section and anastomosis rodent model. Clinics (Sao Paulo). 2011;66(8):1451-6. http://dx.doi.org/10.1590/S1807-59322011000800024

About the authors

Ariane Maris Gomes
Editorial Assistant. Clinics, University of São Paulo School of Medicine *Hospital das Clínicas*, São Paulo, Brazil.

Daniela Aquemi Higa
Editorial Assistant. Clinics, University of São Paulo School of Medicine *Hospital das Clínicas*, São Paulo, Brazil.