

TABLE 1. COMPARISON OF OUTCOMES FOR VAP-POSITIVE AND -NEGATIVE PATIENTS AND VAC-POSITIVE AND -NEGATIVE PATIENTS

	VAP Positive	VAP Negative	P	VAC Positive	VAC Negative	P
Number of patients	2	125		19	108	
Age, median (IQR)	69 (69–70)	68 (51–75)	NS	70 (55–74)	68 (51–74)	NS
Male, n (%)	1 (50)	78 (62)	NS	14 (73)	65 (60)	NS
ICU days, median (IQR)	11 (8–14)	12 (8–20)	NS	17 (11–33)	12 (8–19)	<0.05
MV days, median (IQR)	11 (8–14)	7 (5–12)	NS	16 (9–21)	7 (5–10)	<0.05
Hospital mortality, n (%)	2 (100)	17 (13)	<0.05	8 (42)	11 (10)	<0.05

Definition of abbreviations: IQR = interquartile range; NS = not significant ($P > 0.05$); VAC = ventilator-associated complications; VAP = ventilator-associated pneumonia.

the VAC definition was able to identify patients with increased mortality, duration of mechanical ventilation, and ICU length stay (11). Therefore, applying the VAC definition, it was possible to identify a population “at risk,” whose complications were severe enough to require an increase in ventilator support.

Our experience, although it has limitations due to the small number of patients, may highlight the feasibility and the usefulness of the model, and above all, the strategic importance of the identification of VAC-positive patients. In fact, it is likely that lowering VAC rate in an ICU could improve clinical outcomes in terms of duration of hospital stay, duration of mechanical ventilation, and mortality. Moreover, VAC can be easily and quickly detected, and all the defining criteria are objective. In conclusion, we would like to remember Galileo Galilei when he affirmed that is important “to measure what is measurable and make measurable what is not so” (12), because, regarding infection prevention, we know that only what is effectively measurable makes a better outcome.

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Impacts of the 3/11 Disaster in Fukushima on Asthma Control

To the Editor:

The Great East Japan Earthquake and tsunami on March 11, 2011, resulted in the Fukushima nuclear power plant accident, which consequently led to a massive emission of radioactive substances. We investigated the effect of this complex disaster on individuals with asthma, who have been treated and followed up regularly in the outpatient clinic of Fukushima Medical University Hospital, located 57 km away from the Fukushima Daiichi Nuclear Power Plant. An interview by their attending doctors was performed to evaluate changes of dwelling, changes in lifestyle, and availability of antiasthmatic drugs. Psychological and asthma control status of the patients were evaluated using a visual analog scale (VAS) (1).

Seventy patients with asthma (28 mild persistent, 24 moderate persistent, 12 severe persistent, and 6 the most severe) were enrolled. All the patients were treated with inhaled corticosteroids (ICS) before the disaster. All of them experienced the earthquake stronger than 6+ by Japan Meteorological Agency seismic intensity scale. They were evaluated 3 to 12 weeks after the disaster with regard to physical damage, status of evacuation, and availability of antiasthmatic drugs. In addition, asthmatic symptoms, asthma control, and anxieties about the disaster and their asthma were evaluated by the VAS analysis. They were asked to evaluate their situation by a −10 cm to +10 cm scale (−10 cm = worst or the most anxious; 0 cm = no change; +10 cm = improved significantly or no anxiety). Although physical damage was not reported, 6 subjects (8.6%) had lost

their homes and were living in a shelter. In 6 patients (8.6%), ICS became unavailable and was discontinued. The deterioration rate of asthma was significantly higher in the ICS-discontinued group compared with the ICS-continued group (66.7% and 15.6%, $P < 0.0001$, respectively). VAS analysis of 64 ICS-continued patients revealed that 46 (71.8%) experienced anxiety about the disaster. The anxiety rate was significantly higher among females and those who required evacuation ($P < 0.05$). The deterioration rate of asthma was also significantly higher in the patients with anxiety regarding the disaster ($P < 0.05$) (Figure 1). The patients' location did not affect their asthma control.

In Japan, the effects of earthquakes on asthma exacerbation have been reported, but the results were inconsistent (2–4). In this study, it is clarified that the continuous use of ICS is the important factor for asthma control during the disaster. Although the severity of asthma was relatively high, only two patients experienced severe asthma attacks requiring emergency room visit. This also suggests the importance of reestablishing the drug supply system after the large disaster. In this disaster, the Japanese government allowed pharmacists to supply drugs without prescription if they could confirm the drugs that the patients regularly used. This emergent change in policy worked very well, and a majority of the patients suffering from chronic diseases could get their drugs. In this study, only 10% of the subjects had trouble getting antiasthmatic drugs.

However, deterioration of asthma control was also observed in patients who could continue their ICS. Regarding this, VAS analyses revealed that deterioration is significantly related to emotional stress such as anxiety about the disaster and their having asthma. Fagan and colleagues also reported the importance of psychological stress on asthma during the September 11, 2001, terrorist attacks in the New York City metropolitan area (5). It is also known that central cognitive processes may influence not only the interpretation of asthma symptoms but also the manifestation of measurable changes in immune and physiologic markers of asthma (6).

Our study has some limitations. Due to the disaster, it was not possible to evaluate the parameters such as airway responsiveness, bronchial reversibility, and induced sputum analysis. The number of participants was relatively small because the study was done at a single center in the middle of the unexpected huge, complex disaster.

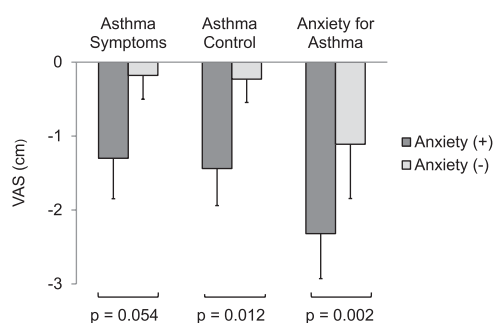


Figure 1. Relationship between anxiety regarding the disaster and the state of asthma. Anxiety about the disaster was evaluated by the visual analog scale (VAS) (–10 cm to +10 cm, the most anxious to no anxiety, respectively). When the scale was between –10 and 0 cm, it was defined as anxiety (+); when it was between 0 and +10 cm, it was defined as anxiety (–). In the anxiety (+) group, scores for asthma symptoms, asthma control, and the anxiety about their asthma were significantly lower than those in the anxiety (–) group. Each bar represents the mean ± SD.

However, the results of present investigation suggest that the stable supply system of antiasthmatic drugs (especially ICS) and the psychological support system for the patients are important to maintain asthma control during disaster conditions.

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Efficacy of β -Lactams as Single Agents for Treating Severe Pulmonary Exacerbations during Pregnancy in Cystic Fibrosis

To the Editor:

Selecting antibiotics for pregnant patients is difficult and becoming an increasing issue for cystic fibrosis (CF) care providers. Recent CF registry data report that over 47% of patients are now at least 18 years of age and the median age of predicted survival continues to climb into the late 30s (1). There were also 225 reported pregnancies in patients with CF in 2010, which continues to increase from 180 in 1990. The literature on pregnancy in CF is limited but suggests that the majority of women experience pulmonary exacerbations during their pregnancy. In a single-center review, there were a median of two acute pulmonary exacerbations per patient during pregnancy (2) while 45% of registry patients received intravenous antibiotics during pregnancy (3). As the prevalence of *Pseudomonas aeruginosa* (PA) infection exceeds 70% in adults (1), the reality is that many providers will be faced with the question of how to treat women with CF for severe pulmonary exacerbations in the setting of chronic PA infections. Current guidelines recommend the use of