

Honeymoon Asthma

Subramanian Senthilkumaran, MD, Sadip Pant, MD, Ritesh G. Menezes, MD, Namasivayam Balamurgan, MD, Ponniah Thirumalaikolundusubramanian, MD and Thaddeus Bartter, MD

Abstract: A young newlywed man experienced severe dyspnea and physiological compromise after his first and second experiences with sexual intercourse. The physiological and psychological stresses put his marriage at risk. All resolved after diagnosis and treatment. This is a case of a rare but known entity—asthma provoked by sexual activity at a level of physiological stress below that required to trigger exercise-induced asthma. The scant literature on this entity was reviewed for which the term “honeymoon asthma” is suggested and is literally true in this case.

Key Indexing Terms: Asthma; Bronchodilators; Coitus; Sexual intercourse; Spirometry. [*Am J Med Sci* 2013;345(5):405–406.]

On the night of his wedding, a 28-year-old man presented with new-onset dyspnea triggered by coitus. We were able to document both severe physiological compromise and a detrimental psychosocial impact. Diagnosis and treatment led to resolution of both. The data support the diagnosis of honeymoon asthma.

CASE REPORT

A newlywed 28-year-old male nonsmoker came to the emergency department at midnight of the day of his marriage complaining of acute-onset breathlessness and rhinorrhea, which had begun 2 hours before arrival. The symptoms had begun immediately after coitus. In keeping with his cultural norm, he had not engaged in coitus before marriage. He denied fever, cough, expectoration, chest pain and hemoptysis. There was no history of wheezing, nocturnal cough, environmental allergies or allergic rhinitis. There was no family history of atopy or asthma. On examination, he was alert and oriented. He was diaphoretic, dyspneic, tachypneic and unable to speak in complete sentences or to lie down. His respiratory rate was 35 breaths per minute and oxygen saturation on room air was 85%. Heart rate was 110 beats per minute. Blood pressure was 110/74 mm Hg, with a pulsus paradoxus of 28 mm Hg. Thoracic examination was significant for the use of accessory muscles of respiration and for bilateral polyphonic inspiratory and expiratory wheezes. The remainder of the physical examination was unremarkable. The patient was unable to perform a peak expiratory flow (PEF) maneuver. On a Ventimask with an fraction of inspired oxygen (FiO₂) of 40%, the partial pressure of oxygen (PaO₂) was 46 mm Hg, with a partial pressure of carbon dioxide (pCO₂) of 12 mm Hg

and a pH of 7.55. A chest roentgenogram did not reveal pneumothorax or infiltrate.

The patient was treated with supplemental oxygen, nebulized salbutamol and nebulized budesonide. Doxofylline and methylprednisolone were given intravenously. Symptoms resolved 40 minutes after initiation of treatment. The patient refused admission; he was therefore discharged and advised to follow-up with a pulmonologist.

The patient presented again to the emergency department the next morning with similar complaints, which once again had started immediately after sexual intercourse. Workup including complete blood count with differential, basic metabolic panel, an electrocardiogram, 2-dimensional echocardiography, sinus films and a second chest roentgenogram were all unremarkable. Symptoms again subsided after treatment similar to his initial episode.

The patient followed-up as an outpatient, and more extensive history and testing were obtained. On sexual history, he appeared to have had conventional coitus. He had experienced mild dyspnea upon initiation of sexual activity and marked worsening after ejaculation. He denied use of a condom. He denied any symptom with exercise. Skin prick test covering multiple allergens was negative. On pulmonary function testing, the forced vital capacity (FVC) was 66% of predicted, the forced expiratory volume in 1 second (FEV₁) was 60% of predicted and the FEV₁/FVC ratio was 0.6. The FEV₁ increased by 22% after inhalation of 200 µg of aerosolized albuterol. PEF was measured before and after climbing 2 flights of stairs on 2 different occasions with no significant change. There was a 55% drop in the PEF rate after sexual activity.

Both the patient and his new wife were extremely frightened and went as far as to discuss divorce with their physician. They were counseled, and the patient was begun on a regular regimen of both salmeterol and fluticasone propionate 15 minutes before coitus. Coitus-related dyspnea resolved. At 2-year follow-up, the patient was symptom-free and the couple had remained married.

DISCUSSION

In 1976, Symington and Kerr¹ coined the term “sexercise-induced asthma” to describe dyspnea and wheezing provoked by sexual activity in patients with exercise-induced asthma. The authors did not document airflow obstruction or reversibility but did state that asthma treatment led to resolution or improvement in sex-related symptoms for all 4 patients reported. Their nomenclature was based on the belief that asthma associated with sexual activity (“sexercise”) had the same triggers and mechanisms as exercise-induced asthma. Shah and Sircar² subsequently studied 3 patients with postcoital asthma and concluded that the mechanisms for postcoital asthma were different from those for exercise-induced asthma. These patients had spirometry before and after exercise testing and had PEF testing before and after (1) walking up 2 flights of stairs (believed to be the exertional equivalent of sexual intercourse)³ and (2) sexual activity itself. The patients had significant drops in FEV₁ after exercise and in

From the Department of Emergency and Critical Care Medicine (SS, NB), Sri Gokulam Hospitals and Research Institute, Salem, India; Department of Internal Medicine (SP) and Pulmonary/Critical Care (TB), University of Arkansas for Medical Sciences, Little Rock, Arkansas; Department of Forensic Medicine (RGM), Srinivas Institute of Medical Sciences and Research Center, Mangalore, India; and Department of Emergency and Critical Care (PT), Chennai Medical College Hospital and Research Center, Trichy, India.

Submitted July 19, 2012; accepted in revised form August 30, 2012.

The authors have no financial or other conflicts of interest to disclose.

Correspondence: Sadip Pant, MD, Department of Internal Medicine, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, AR 72205 (E-mail: spant@uams.edu).

TABLE 1. General characteristics, symptom onset and duration, associated features, severity and psychosocial consequences in patients with honeymoon asthma

Reference	Age (yr)	Sex	Onset	Duration	Underlying atopy	Associated honeymoon rhinitis	Severity	Psychosocial effect
1 Symington and Kerr ^{1a}	25–40	Male	N/A	N/A	N/A	N/A	Required medication	N/A
2 Shah and Sircar ²	45	Male	Immediate	1 hr	+	+	Required medication (including parenteral)	Yes
3 Shah and Sircar ²	26	Male	5 min to 4–6 hr	1 hr	+	No	Required medication	Yes
4 Shah and Sircar ²	25	Female	4–6 hr	1–20 min	+	No	Self-limiting	N/A
5 Falliers ⁵	26	Female	Immediate	N/A	+	N/A	Required medication	N/A
6 Picado ⁶	32	Female	Immediate	Aborted	+	N/A	Required medication (including parenteral) and also ventilation	N/A
7 This case	28	Male	Immediate	Aborted	No	+	Required medication (including parenteral)	Yes

^a Four cases presented briefly in this sentinel report.

N/A, not available.

PEF after sexual activity. No patient had a significant change in PEF after climbing 2 flights of stairs. The authors postulated that whereas the level of exertion involved in sexual intercourse was below the threshold for eliciting exercise-induced bronchospasm, the operant mechanisms for postcoital asthma must be different from those for exercise-induced asthma.

The term sexercise-induced asthma may thus be a misnomer; Shah and Sircar postulated that postcoital asthma was triggered not by the exertion of sexual activity but by autonomic imbalance and high levels of cholinergic activity, which were physiological and/or emotional sequelae of sexual activity.² The report by Shah and Sircar also included 2 patients with postcoital rhinitis, 1 of whom had post-coital bronchospasm (similar to our patient) and 1 for whom rhinitis was the only postcoital event. They showed that in these patients, the rhinitis was triggered only by sexual activity and not by mild or heavy exercise, and postulated mechanistic commonality for both postcoital bronchospasm and postcoital rhinitis. Postcoital rhinitis had previously been recognized and called “honeymoon rhinitis.”⁴ The term “honeymoon asthma” (literally true in our case) parallels that nomenclature and more accurately reflects current understanding of postcoital bronchospasm.

To date, there have been only 10 reported cases (including ours) of this entity and 6 for which confirmatory physiology was documented.^{1,2,5,6} The characteristics of these patients have been summarized in Table 1. The ages of the patients ranged from 25 to 45 years. There is no sexual disparity in the published data; 7 patients were men and 3 were women. Three patients were nonsmokers. Smoking status of the other 4 is not available. All patients in prior literature had some form of atopic or allergic disorder associated with the disease, the most common being allergic rhinitis. In this aspect, our case was unique; our patient had no history of atopy, and an allergy workup was negative. Timing of symptom onset was variable, ranging from pre-coital stimulation (1 patient) to immediately after coitus (5 patients) to 4 to 6 hours after coitus (2 patients). The delayed-symptom onset cases led Shah and Sircar to postulate that postcoital asthma can include early and late phases.² Symptom severity in the

literature has ranged from self-limiting episodes (1 patient) to extremely severe compromise requiring parenteral therapy (3 patients). One patient required mechanical ventilation. To date, there has been no reported case of death due to honeymoon asthma.

It is evident from literature review that prophylactic use of inhaled beta-2 agonists is an effective pharmacological prevention for honeymoon asthma.^{1,2,5,6} In 4 patients (including ours), inhaled corticosteroids were added in addition to inhaled beta-2 agonists due to severity of symptoms.^{1,6} Nasal cromolyn or glucocorticoid nasal spray may prevent associated symptoms of honeymoon rhinitis.²

The literature documents significant psychosocial impact of honeymoon asthma in addition to the symptoms and physiological changes noted previously.² This was true for our case as well. Treatment of honeymoon asthma therefore includes both pharmacotherapy and counseling. Counseling ideally would include not only the patient but his or her partner also; in our case, both the patient and his wife were counseled as part of the successful treatment of his condition.

In conclusion, we have presented a case of honeymoon asthma, a rare but known entity. It may be more common than the scant literature implies; patient inhibition coupled with lack of physician awareness may lead to underappreciation of this entity.

REFERENCES

1. Symington IS, Kerr JW. Sexercise-induced asthma. *Lancet* 1976;2:693.
2. Shah A, Sircar M. Postcoital asthma and rhinitis. *Chest* 1991;100:1039–41.
3. Andrews JL Jr. Sex and asthma. In: Weiss EB, Segal MS, Stein MS, editors. *Bronchial asthma*, 2nd edn. Boston (MA): Little Brown & Co; 1985. p. 932–3.
4. Mackay IS. Rhinitis and sinusitis. *Br J Dis Chest* 1988;82:1–8.
5. Falliers CJ. Sexercise-induced asthma. *Lancet* 1976;2:1078–9.
6. Picado C. Postcoital severe exacerbation of asthma requiring mechanical ventilation. *Eur J Respir Dis* 1987;71:52–3.