General Anesthesia For A Patient With An Extreme Case Of Fitz Curtis Hugh Syndrome

A Russo, S Neustein

Citation

A Russo, S Neustein. *General Anesthesia For A Patient With An Extreme Case Of Fitz Curtis Hugh Syndrome*. The Internet Journal of Anesthesiology. 2007 Volume 17 Number 1.

Abstract

Pelvic inflammatory disease (PID) is the most common infectious disease in young women, and if left untreated, serious complications may result. We report a young, previously healthy patient with an extreme case of Fitz Curtis Hugh syndrome, who was in acute respiratory distress and hypoxemic. To the best of our knowledge, this has not been previously reported. The pathology of FCH is discussed.

Amongst young women 15 to 25 years of age, pelvic inflammatory disease (PID) is the most common infectious disease, and in developed nations accounts for 94% of morbidity associated with sexually transmitted diseases. If PID is left untreated, serious complications may result. (1) We report a patient who presented for abdominal surgery, who was in respiratory distress and hypoxemic, which was apparently due to Fitz Curtis Hugh syndrome.

CASE

The patient was 22-yr-old, 40 kg, 150 cm female who presented for emergency exploratory laparotomy and washout. Her medical history was significant for hypertension of unknown etiology diagnosed 4 yrs earlier, for which she was taking hydrochlorothiazide/irbesartan combination medication. She presented to the emergency room the prior day with right upper quadrant abdominal pain, fever, chills, nausea, polyuria and loss of appetite with gradual onset over the last week. On exam she was noted to be febrile, and tachycardic. She had diffuse abdominal tenderness with rebound, and white/bloody vaginal discharge. She reported having her first sexual intercourse one week prior without condom use. Laboratory results showed elevated WBC count, PT/PTT and alkaline phosphatase and negative pregnancy test. A computed tomography of the abdomen/pelvis was obtained, which showed hepatospenomegaly with periportal edema, gallbladder wall edema, abdominal ascites, bilateral pleural effusions with atelectasis and enlarged bilateral ovaries.

Upon arrival in the operating room, the patient was noted to be tachypneic and dyspneic. Standard monitors were applied and patient was noted to have O2 saturations in the low 70's on room air. Prior to induction, an arterial line was attempted without success as the patient would not tolerate the procedure. The decision was made to place the arterial line after induction. She was preoxygenated with 100% O2 with marked improvement in her oxygen saturations. With cricoid pressure applied, general anesthesia was induced using rapid sequence technique with etomidate and succinylcholine. The maintenance anesthetic consisted of oxygen, desflurane/sevoflurane, fentanyl and vecuronium. Exploratory laparotomy was significant for purulent abdominal fluid which was positive for gram negative rods. The infectious material was irrigated, and washed out with copious fluid. Upon completion, patient was left intubated and transported to the surgical intensive care unit.

On post-op day 1, chest x-ray (CXR) showed increased large bilateral effusions. A bedside thoracentesis was performed with the pleural fluid showing no organisms. Daily CXR's continued to note increasing bilateral effusions, with the left greater than the right. A repeat thoracentesis/pleurocentesis was done 2 days later with similar results and no improvement. On post-op day 3, peritoneal fluid cultured from the exploratory laparotomy grew out Pseudomonas Aeruginosa that was sensitive to the antibiotics she was already receiving. Up to this point, all other blood, urine and pleural fluid cultures had been negative for any growth. In particular, this included Chlamydia Trachomatis and Neisseria Gonorrhea. Despite this, she still remained febrile with an elevated white blood cell count and worsening condition. On post op day 7, she was brought back to the

operating room for repeat exploratory laparotomy and washout for an abdominal abscess. In addition, a left chest tube was placed secondary to presumed empyema. She remained intubated for over two weeks. Once extubated, the rest of her hospital course was uncomplicated, and the patient was discharged home.

DISCUSSION

To the best of our knowledge, this is the first report of a young, healthy patient presenting for surgery in respiratory distress, which was due to Fitz Curtis Hugh syndrome. Pelvic inflammatory disease pertains to an acute infection of the upper genital tract structures in women, involving any or all of the uterus, oviducts, and ovaries. Involvement of these structures results in endometritis, salpingitis, oophoritis, peritonitis, perihepatitis and tubo-ovarian abscess. (2)

PID usually affects young, sexually active women. Major risk factors include exposure to Chlamydia trachomatis and Neisseria gonorrhea, multiple sexual partners, nonbarrier contraceptive use, instrumentation of the cervix, and smoking. In the past, oral contraceptive pills had been thought of as protective, but data from the Pelvic Inflammatory Disease Evaluation and Clinical Health (PEACH) study showed that with oral contraceptives or barrier methods there was no associated reduction in PID. ([1])

Perihepatitis or Fitz-Hugh-Curtis syndrome is an extrapelvic manifestation and can occur in 15% to 20% of cases of PID. Both Neisseria gonorrhea and Chlamydia trachomatis have been found in 10 % and 50 % of cases of perihepatitis, respectively. It is believed that perihepatitis results from the direct spread of bacteria from the fallopian tubes to the liver capsule, likely along the paracolic gutters or sulci. Lymphatic and hematogenous spread cannot be excluded, as these likely play a role in the spread of the disease. When this condition is left untreated, adhesions can form between the liver capsule and the subphrenic surface of the diaphragm. ([2])

The classic presentation of perihepatitis is an acute onset of excruciating sharp right-upper abdominal pain, which exacerbates on inspiration and often has referred right shoulder pain. Due to the vast differential diagnosis of this presentation, the diagnosis of perihepatitis is often based on a high index of suspicion. This leads to perihepatitis frequently being confused for other conditions since it mimics cholelithiasis, hepatitis, right-lower lobe pneumonia, pleuritis, subprenic abscess, perforated peptic ulcer, and pancreatitis. ([2])

The diagnosis of PID had been almost exclusively a clinical one until the publication of a study by Washington et al. in 1969, in which laparoscopy was performed ([3]). Subsequent studies from the 1990s found the sensitivity of laparoscopy to be as low as 50 percent with a specificity approaching 100 percent ([4,5,6]). Given these results, laparoscopy can have a considerable importance in confirming the diagnosis of PID by having direct visualization of the liver capsule, but is not sensitive enough to be considered a diagnostic gold standard.

Interestingly, our patient also presented with significant pleural effusions and arterial hypoxemia. Although pleural effusions are strongly associated with pronounced ascites secondary to cirrhosis of the liver, literature is scarce for this complication with the acute development of ascites. It may be related to the presence of communications (usually small diaphragmatic defects) and to the pressure gradient between the abdominal and pleural cavities that facilitates the movement of the liquid into the chest. Lung mechanics are negatively affected by the pleural fluid, resulting in decreased lung volumes and pulmonary compliance. Consequently, this leads to moderate hypoxemia secondary to both slight right-to-left intrapulmonary shunt and ventilation-perfusion imbalances.

In summary, we present an extreme case of Fitz Curtis Hugh syndrome, which caused severe respiratory impairment.

CORRESPONDENCE TO

Steven M. Neustein, M.D. Dept. of Anesthesiology, Box 1010 Mount Sinai Medical Center One Gustave L. Levy Place New York, NY 10029-6574 Telephone (212) 241-7467 FAX: 212-426-2009 Email: steve.neustein@mountsinai.org

References

1. Epperly AT, Viera AJ. Pelvic Inflammatory Disease. Clinics in Family Practice 2005;7:67-78.
2. Banikarim C, Chacko MR. Pelvic Inflammatory disease in adolescents. Adolescent Medicine Clinics June 2004;15: 275-283, viii
3. Washington AE, Katz P. Cost of and payment source for pelvic inflammatory disease. JAMA 1991;266:2565-2569.
4. Soper DE, Brockwell NJ, Dalton HP, Johnson D. Observations concerning the microbial etiology of acute salpingitis. Am J Obstet Gynecol 1994;170:1008-1017.
5. Sellors J, Mahony J, Goldsmith C, Rath D, Mander R, Hunter B, Taylor C, Groves D, Richardson H, Chernesky M. The accuracy of clinical findings and laparoscopy in pelvic inflammatory disease. Am J Obstet Gynecol 1991; 164:113-120.
6. Peiper JF, Boardman LA, Sung CJ. Performance of clinical and laparoscopic criteria for the diagnosis of upper genital tract infection. Infect Dis Obstet Gynecol 1997; 5:291-296.

Author Information

Anthony Russo, MD
Instructor, Department of Anesthesiology, The Mount Sinai Medical Center

Steven M. Neustein, M.D.
Associate Professor of Anesthesiology, The Mount Sinai Medical Center